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Antecedents and outcomes of controlling parenting in the achievement and interpersonal domain: A correlational and experimental approach

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“ There's a crack in everything,
that's how the light gets in. ”

– Leonard Cohen

Dankwoord

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Chapter 1

Antecedents and Outcomes of Controlling Parenting: A General Introduction

Most parents have the best intentions with their children. They invest a considerably amount of time, energy, and financial resources in their child's rearing (Bornstein, 2015). In doing so, they try to promote their child's learning and to secure that their child is behaving well. Yet, at least for some parents, such well-meant parenting may be rather pushy and controlling in nature. Unfortunately, controlling or pressuring parenting has been found to undermine children's well-being, performance, and social adjustment (e.g., Soenens & Vansteenkiste, 2010). Ironically, these are precisely the outcomes well-meaning parents hope to achieve.

Given the adverse correlates and consequences associated with controlling parenting, the question "What makes parents controlling?" needs to be addressed. This question is central to the present dissertation. We argue that pressure imposed on parents is a critical factor to understand how parents sometimes behave in a pressuring and domineering way towards their child. In addressing this question, the present dissertation examines the role of three sources of pressure on parents, namely pressuring factors in the parents' environment, pressures arising from their children's functioning, and pressures residing in parents' psychological functioning.

Because the concept of parental control is complex (Barber & Xia, 2013; Grolnick & Pomerantz, 2009), it was deemed important to define this concept clearly. To do so, we relied on Self-Determination Theory (SDT; Deci & Ryan, 2000), a general theory on motivation and social development in which autonomy and factors that affect individuals' autonomy (including parental control) take a central role. In the following paragraphs, the notion

of controlling parenting as conceived within SDT is discussed and a brief overview of the developmental outcomes associated with such parenting is given. Next, we introduce the guiding theoretical model of this dissertation: We discuss in greater detail the three sources of pressure on parents and we specify the independent and interactive contribution of these pressures on parenting. In doing so, we will identify the gaps in the literature and indicate how the present dissertation aimed to address them by introducing several study goals and corresponding hypotheses. This introductory chapter ends with a brief schematic overview of the specific empirical chapters of the present dissertation.

The Broader Theoretical Framework

SDT is a broad theory on human motivation, growth, and optimal development. It also articulates the socialization factors that affect these outcomes. Specifically, within SDT, the assumption is held that parenting dimensions vary in the degree to which they hinder or facilitate the satisfaction of children's needs for autonomy, competence, and relatedness, the satisfaction of which is said to be critical for academic and social adjustment (Deci & Ryan, 2000, 2012). For children to flourish and develop optimally, they need to experience a sense of volition and psychological freedom (i.e., autonomy satisfaction), experience a sense of connectedness and intimacy (i.e., relatedness satisfaction), and feel efficacious to execute tasks and activities (i.e., competence satisfaction) in their daily activities (Deci, Eghrari, Patrick, & Leone, 1994). In the parenting context, controlling parenting is said to hinder the satisfaction of these psychological needs. In contrast, an autonomy-supportive parenting style would promote the satisfaction of these needs (Grolnick, Ryan, & Deci, 1991; Joussemet, Landry, & Koestner, 2008).

Controlling Relative to Autonomy-Supportive Parenting

In SDT *controlling parenting* is defined as parenting that is pressuring and domineering in nature (Assor, Roth, & Deci, 2004; Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). When parents are controlling they pressure their children, they solve the child's problems, they take the lead in interactions, thereby denying input and choice, as they work mainly from their own rather than the child's perspective (Grolnick et al., 1991; Joussemet, Landry et al., 2008). Controlling parenting can be manifested through the reliance on externally controlling techniques that pressure the child from the outside (e.g., threats; yelling; punishments) or more internally controlling techniques that pressure the child from within. In the latter case, parents appeal to internally pressuring feelings such as guilt, shame, and anxiety, for instance through the expression of disappointment or through adopting a conditionally approving attitude. The concept of internally controlling parenting is similar to the concept of parental *psychological control* (Barber, 1996), which has received substantial attention in the socialization literature. Barber (1996) defined psychological control as ''socialization pressure that is nonresponsive to the child's emotional and psychological needs but instead stifles independent expression and autonomy" (p. 3299). Specifically, psychological control refers to ''parental behaviors that are intrusive and manipulative of children's thoughts, feelings, and attachments to parents" (p. 15; Barber & Hamon, 2002).

It is important to note that controlling parenting is different from healthier forms of parental involvement, such as *structure* or *guidance* (Farkas & Grolnick, 2010), or *behavioral control* (Grolnick & Pomerantz, 2009). Parental structure is said to foster children's experiences of competence in particular. In the learning domain, for instance, parents provide structure by communicating clear guidelines or expectations about schoolwork, by monitoring the child's learning, or by giving concrete feedback and information with the aim of fostering the child's skill

development. In the domain of children's after-school activities and peer affiliations, parents can monitor, solicit information, setting rules regarding adolescents' whereabouts, and offer information intended to foster the child's competence in dealing with social relations. Notably, structure in these domains can be introduced and maintained in various ways, such that parents can be more or less controlling. To illustrate, parents can prohibit undesirable behaviors, which involve one aspect of structure either in a controlling way (e.g., by threatening with sanctions) or in an autonomy-supportive way (e.g., by providing a rationale), with resulting consequences for children's acceptance and defiance against these prohibitions (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014).

In SDT, controlling parenting is contrasted with parental *autonomy support*, which is defined as the degree to which parents promote volitional functioning and self-endorsement in children (Soenens et al., 2007). To do so, parents encourage children to try and solve problems themselves, take their children's perspective, promote participation, choice, and dialogue, and provide a meaningful rationale for a request when choice is constrained (Deci et al., 1994; Grolnick, Deci, & Ryan, 1997). Importantly, this definition of autonomy-support as the promotion of volitional functioning is distinct from a definition of autonomy-support as the promotion of independence (Soenens et al., 2007). That is, autonomy-support as defined in SDT does not mean that parents encourage children to take distance and to make decisions independently, that is, without parental input or assistance. Instead, it pertains to the degree to which parents encourage the child to act upon personally endorsed values, goals, and interests. Because this is a capacity that children need to develop gradually, autonomy-supportive parents are available to their children. Rather than requiring that children are independent, autonomy-supportive parents allow their children to depend upon them willingly for advice and help (Fousiani, Van Petegem, Soenens, Vansteenkiste, & Chen, 2014).

In this dissertation, we examined dynamics involved in controlling relative to autonomy-supportive parenting in two important domains of life, that is, achievement and interpersonal relationships. Many classic and contemporaneous theories on personality development converge on the basic assumption that there are two basic developmental lines in life, one characterized by themes of relatedness in relationships and one characterized by themes of personal identity, self-definition, and achievement (Blatt, 2008). Research has shown that controlling parenting is relevant in both domains of life and can manifest in different ways depending on the domain involved (e.g., Soenens, Vansteenkiste, & Luyten, 2010).

Most previous studies in the SDT-literature on controlling relative to autonomy-supportive parenting were limited by the use of rather generic self-report measures, which were either filled in by the children or the parents. To the extent outcomes or antecedents of controlling relative to autonomy-supportive parenting were assessed in the same reporters, observed associations may be artificially inflated. Moreover, parents may be prone to a social desirability response tendency, which undermines the reliability and validity of the obtained findings. Observational measures of parenting can help to overcome such limitations. Furthermore, observation of parenting behaviors has added value form a practical viewpoint because it sheds light on the way in which a controlling relative to an autonomy-supportive style manifests in specific life domains and with specific tasks. The identification of these more concrete behaviors may in the long run help practitioners to provide more specific recommendations about how to avoid controlling behaviors and how to behave in an autonomy-supportive way. Given the benefits of observational methods to assess parenting practices, in the present dissertation parents' interactions with their children were recorded and observed on a minute-to-minute basis in a few studies.

The Costs of Controlling Parenting

Accumulating evidence confirms the negative effects of parental control and the positive effects of autonomy support on children's development (e.g., Soenens & Vansteenkiste, 2010). With respect to learning and achievement, controlling parenting was found to predict difficulties in the child's learning process, indicated by lower school achievement (e.g., Su, Doerr, Spinath, Johnson, & Shi, 2014), poorer teacher-rated academic adjustment (e.g., Ahmad, Vansteenkiste, & Soenens, 2013), and low-quality study motivation (e.g., Vansteenkiste, Zhou, Lens, & Soenens, 2005). On the other hand, autonomy-support was found to predict positive learning outcomes, including higher school achievement (e.g., Ng, Kenney-Benson, & Pomerantz, 2004) and high-quality homework motivation (e.g., Katz, Kaplan, & Buzukashvily, 2011).

Comparatively fewer studies have shed light on the effects of controlling relative to autonomy-supportive parenting in the interpersonal domain. Yet, the available work indicates that controlling parenting undermines children's social skills, both within the parent-child relationship and in their broader social network (e.g., with peers and friends). For instance, controlling parenting was found to be associated with less adolescents' disclosure towards parents (e.g., Soenens, Vansteenkiste, Luyckx, & Goossens, 2006), to disturbances in adolescents' separation-individuation processes from their parents (e.g., Kins, Soenens, & Beyers, 2011; Mayseless & Scharf, 2009), and to impairments in children's social functioning, including aggression (e.g., Gershoff et al., 2010; Joussemet et al., 2008; Soenens, Vansteenkiste, Goossens, Duriez, & Niemiec, 2008) and hostile interpersonal attributions (e.g., Nelson & Coyne, 2009). In contrast, parents' provision of autonomy support promotes a more harmonious interpersonal relation between parents and children. For instance, Mauras et al. (2012) showed that parental autonomy support during a mother-child conversation, was related to more adolescent's engagement in the conversation.

The majority of studies on controlling relative to autonomy-supportive parenting have focused on its implications for children's functioning. Yet, it is reasonable to expect that the negative effects of a controlling approach may also radiate to the parents' own functioning as well as impact on the parent-child dyad. In the present dissertation, these shortcomings will be addressed by broadening the scope of outcomes from the child to the parental and dyadic level. More importantly, the central aim of this dissertation was to identify antecedents of controlling relative to autonomy-supportive parenting.

Three Sources of Pressure on Parents

Given that controlling parenting is associated with disturbances in children's functioning, it is important to gain a better understanding in the antecedents of this parenting dimension. A general heuristic framework for the identification and study of critical antecedents of parenting has been introduced by Belsky (1984), who discussed the role of social-contextual, parental personality-related, and child-related influences on parental behavior. This framework has been applied more specifically to the context of controlling parenting by Grolnick (2003).

Grolnick (2003) generally argued that pressure on parents may elicit a more controlling approach because pressure reduces parents' energy and psychological availability. Pressure would also narrow parents' perspective and would lead them to focus rigidly on their desired outcomes. As a consequence, pressure may make parents choose the most straightforward and cost-efficient way to attain the desired outcomes. A controlling approach is likely to be perceived as such a fast and cost-efficient way of reaching parents' goals. In contrast, taking the child's perspective and allowing children to solve their own problems or granting them autonomy to find their own way (i.e., a more autonomy-supportive approach), is likely perceived to require more patience and psychological openness, resources that are restricted when parents find themselves under pressure.

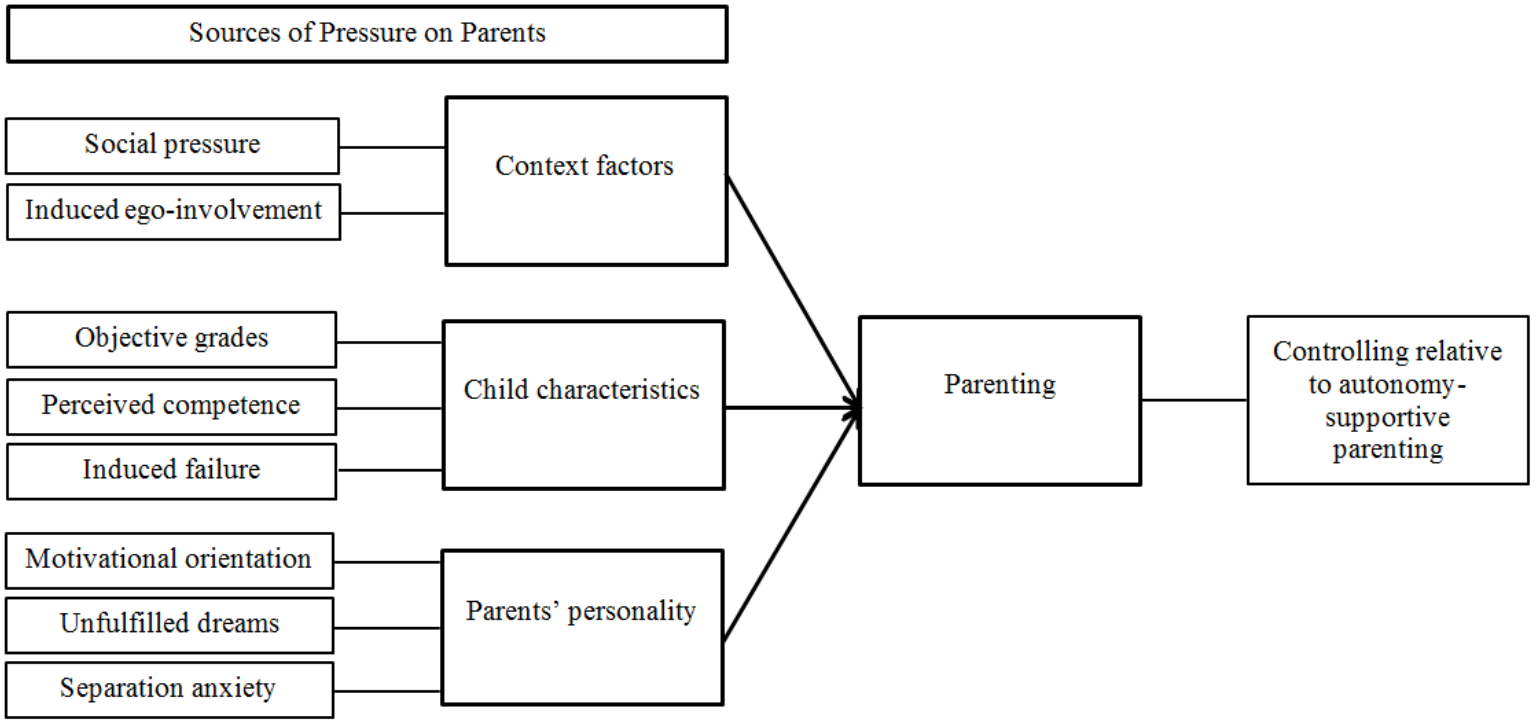

Figure 1. Graphic overview of the distal pressures on parenting and their operationalization in the present dissertation.

Three different types of pressure have been identified (Grolnick, 2003), that is, pressure coming from parents' social environment, pressured evoked through the child's behavior, or pressure residing in the parents' own functioning. In the next sections, these three sources of pressure on parents and their specific operationalization in the present dissertation are discussed in greater detail. In Figure 1 we present an overview of the distal pressures on parenting and their operationalization in the present dissertation.

Pressure residing in the parents' environment. The larger context of the family is more or less replete with factors that increase parents' risk of using a controlling approach (Grolnick & Apostoleris, 2002). There is evidence, for instance, that contextual features such as a dangerous neighborhood, negative life events, financial strain, stress at work, and social disadvantages relate to more controlling parenting (e.g., Grolnick, Weiss, McKenzie, & Wrightman, 1996; Gutman, McLoyd, & Tokoyawa, 2005; McLoyd & Wilson, 1991; Repetti & Wood, 1997). In addition to such tangible stressors and risk factors, the interpersonal network of the parent may also constitute a source of pressure (Belsky, 1984). For instance, it has been found that the negative emotions and conflicts experienced in a low quality marital relationship extend to the parent-child relationship, which then was characterized by more controlling parenting (e.g., Krishnakumar, Buehler, & Barber, 2003).

However, there may also be social pressures arising from the *broader* socio-cultural context that influence parents' interaction with the child (Bronfenbrenner, 1979). In different social contexts, ranging from proximal to more distal ones, parents may experience pressure to be a successful parent. That is, parents may feel pressured to demonstrate that they are capable of rearing a well-adjusted and successful child. Although scholars have speculated about the role of such social pressures (Grolnick & Seal, 2008), little empirical work has been conducted on this topic. Social pressure on parents is likely to be intertwined with the broader economic and ideological values of the society in which parents bring up their children

(Deci & Ryan, 2012). Of interest herein is the capitalistic economic system in which people are held more strongly accountable for the output they (fail to) generate. Further, the ideological values and lifestyle focused on achievement, social recognition and excellence conveyed in such a capitalistic environment have been found to be correlated with the average importance individuals attribute to achievement in a society (Schwartz, 2007). One potential implication of such a societal emphasis on achievement is that parents may feel that they are held accountable for their children's successes and inevitably also for their children's failures. This social pressure to be a successful parent increases parents' desire to attain specific academic outcomes with their child and, as such, may increase the likelihood of developing an ego-involved orientation towards the child's performance. That is, parents may hinge their ego on their child's successful functioning, an orientation which may elicit a more controlling approach.

In the interpersonal domain, social pressure to be a successful parent may imply that parents are made responsible or even accountable for their child's successful social development, involving the necessity to garner sufficient knowledge about their child's after-school behavior. Parents who are less informed about their children's after school activities and their peer relations or parents with less socially skilled children may be conveyed the message that they fail in their responsibility to be a 'good' parent. Similarly as in the achievement domain, such a social pressure may elicit more controlling parenting.

Indirect evidence for a link between social pressure and parenting was provided by Grolnick, Gurland, DeCourney, and Jacob (2002; Grolnick, Price, Beiswenger, & Sauck, 2007) who examined the effects of experimentally induced ego-involvement on mothers' autonomy support and control while mothers worked on a task requiring scholastic or social skills with their child. Mothers in the ego-involvement condition were told that they were responsible for their children's performance and that the child would be tested later on. The experimental induction of parental ego-

involvement had a modest effect on some of the autonomy-suppressing maternal behaviors in both experiments. Given these modest effects, there is a need to revisit these effects and to examine their interplay with other sources of pressure on parents. In the present dissertation, we will test ways to tap into this kind of pressure and we will investigate its relations with the other discussed pressures in the prediction of parenting.

Pressure coming from the child's functioning. A second source of influence on parents' interaction style stems from the child's functioning. Well-known in this regard is the influence of the child's temperament (e.g., Grolnick et al., 1996; Lee & Bates, 1985) and externalizing problems (e.g., Pettit, Laird, Dodge, Bates, & Criss, 2001) on parents' behavior. For instance, Anderson, Lytton, and Rommey (1986) have shown that mothers who interacted with conduct disordered children were more controlling than mothers who had an interaction with a non-clinical child. This relation emerged irrespective of whether mothers were coupled with their own (either conduct disordered or non-clinical) child or with the child of another mother in the study. As such, the child's externalizing problems elicited coercive parenting irrespective of the dyads' history of working together. Although it is certainly interesting and meaningful to consider the role of child's functioning in the interpersonal domain, we refrained from doing so. In the Discussion of the dissertation (i.e., Chapter 8) we will return upon this issue.

Other studies have examined parents' reactions to children's incompetence and low achievement. Pomerantz and Eaton (2001), for instance, found children's low objective performance (i.e., poor grades) to relate positively to mothers' use of a controlling style of providing support, with mothers being more controlling when children performed poorly. Further, Grolnick et al. (2002) found that mothers who worked with low achieving children (i.e., indicated by the child's grades) were observed to be more controlling and less autonomy-supportive. In contrast, Ng., Kenney-Benson, and Pomerantz (2004) found children's objectively recorded

achievement to be unrelated to mothers' observed or self-reported use of control relative to autonomy support. Apparently the relation between children's competence and parents' use of control relative to autonomy support is more complex than appears at first sight. Possibly, parents do not by definition react to objectively low-achieving children by increasing the pressure, but only to the extent that they perceive the obtained scores as a failure. Therefore, the present dissertation wants to add to this small body of research by investigating the relation between children's competence and parenting dimensions from different angles, that is, (a) by comparing the influence of children's objective grades with the role of parents' subjective perception of the child's competence and (b) by investigating the role of experimentally induced child's failure in parents' use of control relative to autonomy support.

Pressure residing in parents' own functioning. A third important source of influence on parents' controlling style resides in their own functioning. Considerable work has shown that parents' personality is related to their parenting style (Prinzie, Stams, Dekovic, Reijntjes, & Belsky, 2009). Also, there is evidence from behavioral genetic research that parenting behavior is determined substantially by individual differences between parents (Klahr & Burt, 2014). Still, research on the role of parents' personality in the prediction of parents' controlling style in particular is rather scarce. This is striking because both Belsky (1984) and Barber et al. (2002) have indicated that parents' personal functioning may represent the most powerful source of influence on parenting. Further, depending on the domain in which the controlling parenting is applied, some personality factors represent more likely candidate risk factors of controlling parenting than others. In the present dissertation we focus on (a) parents' motivational orientation and parents' unfulfilled dreams as antecedents of parental control relative to autonomy support in the achievement domain and (b) parents' separation anxiety as an antecedent in the interpersonal domain.

In the achievement domain, parents' motivational orientation – more technically labelled as their causality orientation in SDT – is conceived as a possible pressure from within parents' functioning. Causality orientations are defined as relatively stable motivational orientations reflecting distinct ways of regulating behavior and perceiving the environment. A key distinction is made between an autonomous and a controlled motivational orientation which are said to be both present in an individual to some degree (Deci & Ryan, 1985). The autonomous orientation is defined as the degree to which people tend to regulate their behavior on the basis of self-endorsed values and interests. Highly autonomous people also interpret the environment as both being supportive of their autonomy and providing information relevant to choices they are making. In contrast, the controlled orientation is characteristic of individuals who regulate their behavior on the basis of internal and external demands and who are sensitive to external expectations and pressures in their environment. Because individuals scoring high on the controlled orientation regulate their behavior on the basis of pressuring forces and demands, a controlling interaction style may be more readily available in their repertoire of interpersonal behaviors. In contrast, much like individuals scoring high on an autonomous orientation regulate their own behavior on the basis of self-endorsed autonomous motives, they are likely to behave in an autonomy-supportive manner towards others.

Evidence for the role of motivational orientations in parents' behavior is scarce. As far as we know, only Deci and Ryan (1985) have provided indirect evidence for the relation between autonomous orientation and parenting. Their study indicated that undergraduate students scoring high on the autonomous orientation also reported having a higher tendency to support autonomy in children. With respect to the controlled orientation, more recent research in the educational domain indicates that teachers' controlled orientation relates positively to observed controlling teaching, while the autonomous orientation appeared to be unrelated (Van den Berghe et al., 2013). In the present dissertation we will investigate motivational

orientations in the parenting domain in a robust way, that is, by including self-reports, child-reports, and observational measures of parenting.

In the achievement domain, we also focused on a second pressure from within parents' functioning, that is, parents' unfulfilled dreams. Unfulfilled dreams refer to people's lost ambitions and the choices they regret in their life (Beike, Markman, & Karadogan, 2008). Both seminal writers, such as Freud and Jung, and contemporary parenting experts (Böszörményi-Nagy & Krasner, 1994; Miller, 1997) suggest that parents cope with their unfulfilled ambitions by projecting their unrealized dreams onto their children. Consistent with this reasoning, Brummelman and colleagues (2013) recently showed that when parents are experimentally exposed to their own unfulfilled ambitions, they reported an increased desire for their child to redeem their unfulfilled dreams, at least when they thought of their child as a part of themselves. However, this study did not examine whether parents' desire for their child to realize the parents' unfulfilled dreams would relate to actual parenting practices, an issue we addressed in the present dissertation.

In the interpersonal domain, we consider parents' separation anxiety as a possible antecedent of controlling relative to autonomy-supportive parenting. During adolescence, parental separation anxiety refers to feelings of stress and concern regarding the decreasing involvement of the adolescent with the parent and the adolescent's growing affiliation with others (e.g., peers and friends) (Hock, Eberly, Bartle-Haring, Ellwanger, & Widaman, 2001). During adolescence children typically need more distance and spend more time away from parents, a tendency that is part of a process of increasing individuation in this life period (e.g., Frank, Avery, & Laman, 1988; Smollar & Youniss, 1989). Although all parents are confronted with this process of separation-individuation, parents differ in the way they cope with the challenges arising from it. Separation-anxious parents may interpret their children's increasingly independent functioning as an indication of an impending process of separation. Given their own developmental history and

personality functioning, they may perceive their child's increasing independence as a threat to the relationship with their child or, in other words, as a threat of loss (Bowlby, 1973). Driven by such fear, separation-anxious parents may then engage in controlling parenting practices as a means to keep their adolescent physically and emotionally close to them. Indeed, questionnaire-based studies have shown a robust association between parental separation anxiety and controlling parenting (Kins et al., 2011; Soenens, Vansteenkiste, Duriez, & Goossens, 2006; Soenens et al., 2010). In the present dissertation, we relied on an observational measure of controlling relative to autonomy-supportive parenting to revisit the role of parental separation anxiety.

Extrinsic Relative to Intrinsic Goal Promotion

In the present dissertation, our primary focus is on *how* parents interact with their children, that is, how controlling relative to autonomy-supportive they are. Yet, we also want to move beyond an exclusive attention on the style parents use to interact with their children and tap into the content of the goals they highlight towards the child. According to SDT, goals can be either extrinsic or intrinsic in nature (Deci & Ryan, 2000). Indeed, some parents emphasize to their children the importance of *extrinsic goals* such as being rich, being popular, and being good-looking. Although these goals are appealing at first sight, they are known to provide little lasting satisfaction and happiness in the longer run (Kasser & Ahuvia, 2002). In contrast, parents can also promote more inherently rewarding *intrinsic goals* such as contributing to the community, personal growth, and developing meaningful relationships.

The goals parents promote for their children are not equal as intrinsic goals are more directly satisfying of basic needs and extrinsic goals are less satisfying or even thwarting of basic need satisfaction, and thus have direct effects on psychological wellness (Niemiec, Ryan, & Deci, 2009; Ryan, Sheldon, Kasser, & Deci, 1996; Vansteenkiste, Soenens, & Duriez, 2008).

Indeed, extrinsic, relative to intrinsic, goals have been found to relate to lower personal well-being (e.g., Kasser & Ryan, 1996), decreased academic performance and motivation (e.g., Ku, Dittmar, & Banerjee, 2012), and social costs, including prejudice (e.g., Duriez, Vansteenkiste, Soenens, & De Witte, 2007) and lower empathy (e.g., Sheldon & Kasser, 1995). Similarly, some studies have shown that extrinsic goal promotion by parents is related to maladaptive outcomes in children, including test anxiety at school and lower grades (e.g., Mouratidis, Vansteenkiste, Lens, Michou, & Soenens, 2013), insecure self-esteem (e.g., Wouters et al., 2014) and prejudice (e.g., Duriez, 2011). As such, it was deemed important to address the question *why* parents prioritize extrinsic rather than intrinsic goal promotion in their child rearing.

Gaps in the Literature and Goals of the Dissertation

The present dissertation aims to address 4 broader goals and 8 specific hypotheses. Figure 2 presents a graphical overview of the global proposed theoretical model underlying several of the conducted studies.

Goal 1: Understanding the Role of the Three Sources of Pressure as Distal Antecedents of Parenting

Although a number of studies examined the role of pressure arising from within parents' personal functioning (e.g., Soenens, Vansteenkiste, Duriez et al., 2006), from parents' social environment (e.g., Grolnick et al., 2002), or from the child's competence level (e.g., Pomerantz & Eaton, 2001), research on the role of pressures on parents is rather scarce. Further, none of them simultaneously examined the unique (Hypothesis 1) and interactive (Hypothesis 2) contribution of the three different sources of pressure on parents' style of interacting with their children in the achievement and interpersonal domain.

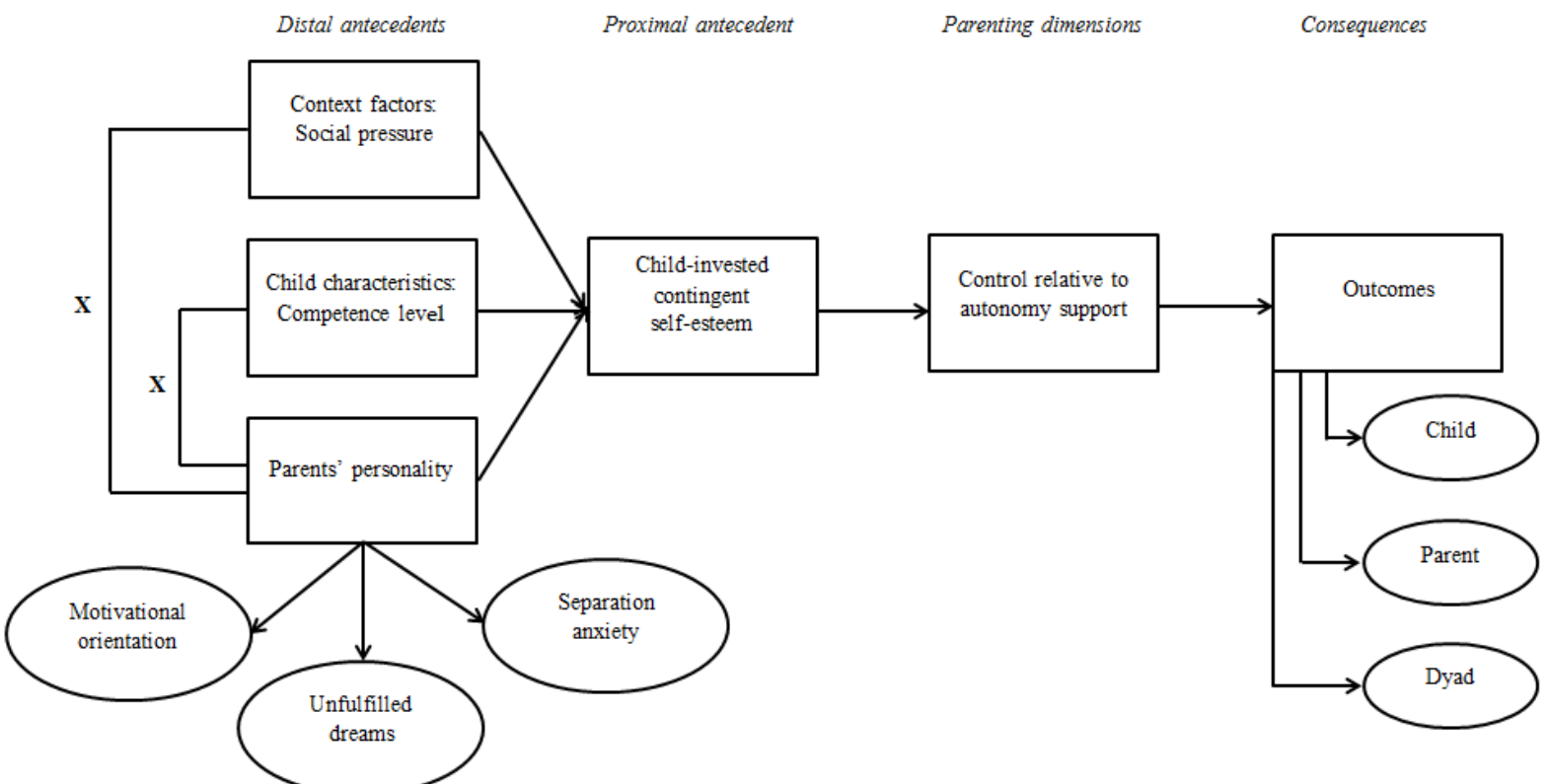

*Figure 2.*Graphic overview of the theoretical relations in the process model of pressure.

Hypothesis 1: Each of the three sources of pressure will relate positively to controlling (relative to autonomy-supportive) parenting. Within each category of pressure, we tap into new antecedents and/or use new methods to operationalize antecedents. Here we will indicate how we expect that each of these pressures will relate to controlling relative to autonomy-supportive parenting.

First, with regard to pressure arising in parents' social environment in the achievement domain, we will examine the correlates of the experience of 'social pressure to be an achievement-oriented parent'. Such social pressure may be conveyed through different channels, including the media, the children's school, other parents, grandparents, or one's partner (Bronfenbrenner, 1979). Evidence for the reliability and validity of a new self-report measure tapping into this concept will be documented (Chapter 2, Pilot Study 2) and the cross-sectional and longitudinal relation with controlling parenting in the achievement domain will be examined (Chapter 2, Study 1 & 2). Next, we will examine whether parents of Chinese, relative to Belgian, adolescents experience elevated levels of this social pressure, with resulting consequences for their reliance on controlling practices (Chapter 3). Further, rather than being assessed through self-reports, the experience of social pressure will be experimentally activated and its effects will be examined in the achievement domain (Chapter 5). In the interpersonal domain, we limit ourselves to only experimentally induce social pressure, which will be manipulated by inducing parents' accountability to be informed about their child's peer affiliations (Chapter 7). Irrespective of how social pressure is operationalized, we hypothesize that in both domains higher levels of social pressure will relate to more controlling and less autonomy-supportive parenting.

Second, we aim to gain further insight in the question whether the child's achievement influences parenting. Possibly, parents do not by definition react to objectively low-achieving children by increasing the pressure, but only to the extent that they perceive the obtained scores as a

failure. By investigating the role of both objective (i.e., children's grades) and subjective (i.e., parental perception of) child's performance (Chapter 2) and by manipulating children's failure to meet a certain performance standard (Chapter 5), we try to clarify whether and how pressure residing from child's functioning affects parents' interaction style. We hypothesize that parents' perception of low achievement in particular is likely to relate to a more controlling parenting style.

Third, depending on whether the studies in the present dissertation focus on the achievement domain or on the interpersonal domain, we will investigate the role of different characteristics of parents' own functioning. Specifically, with respect to the achievement domain, parents' own motivational orientation and their unfulfilled dreams will be considered as potential antecedents of parents' interaction style (Chapter 2, 3, and 5). Although studies in the educational domain (Van den Berghe et al., 2013) have documented evidence for the role of teaches' autonomous and controlled motivational orientations in the prediction of controlling teaching, such research has not been conducted yet among parents, the primary socialization figure of children. We hypothesize that parents high on the controlled orientation will use more controlling and less autonomy-supportive practices while the reversed pattern of relations will be obtained among parents high on the autonomous orientation. We will test the concurrent (Chapter 2, Study 1 and Chapter 5) and longitudinal (Chapter 2, Study 2) relation with self-reports (Chapter 2) and observations (Chapter 5) of controlling parenting in the present dissertation. Next, we investigate the role of unfulfilled dreams in controlling parenting in both Belgian and Chinese parents (Chapter 3). Because Belgian parents grew up in liberal and economically advanced circumstances, while the same cohort of Chinese parents grew up in a financially constrained environment, Chinese parents may have been less able to fulfill their dreams in life. Although we expect higher levels of unfulfilled dreams among Chinese parents, the structural relations between unfulfilled dreams and controlling parenting are

hypothesized to be similar across country of residence. Finally, with respect to the interpersonal domain, we investigate the role of parents' separation anxiety (Chapter 7). Parents high on separation anxiety are hypothesized to use a more controlling and autonomy-suppressing interaction style as a means to keep the child psychically and emotionally close to them.

Hypothesis 2: The three sources of pressure will interact with one another in the prediction of on controlling (relative to autonomy-supportive) parenting. As argued in the preceding paragraphs, there are plausible reasons to predict effects of each of the sources of pressure (social pressure, child's achievement, and parents' personal functioning) on controlling relative to autonomy-supportive parenting. It is also important, however, to examine the interplay between these different sources of pressure. Although it has been argued repeatedly that different sources of influence may interact in the prediction of parents' behavior (Belsky, 1984; Grolnick & Apostoleris, 2002), relatively few studies so far have addressed the interplay between parental personality and social-contextual influences on controlling parenting (for an exception, see Grolnick et al., 2007).

Possibly, parents need to be exposed to different pressures in order to start engaging in a controlling style. That is, the presence of multiple pressures may be needed to reach a critical threshold or a tipping point for parents to become controlling. Although each of the three sources of pressure may interact with each other in the prediction of parents' behavior, parents' own personal functioning (i.e., their motivational orientation or separation anxiety) is the most probable moderator of the effects of the two other sources of pressure (i.e., social pressure and child's achievements) (Belsky, 1984). Especially in Chapter 5 (in the achievement domain) and 7 (in the interpersonal domain), we pay attention to the interplay of the different pressures on parenting (and other outcomes).

Goal 2: Understanding the Effects of Distal Pressures on Controlling Parenting: The Role of Parental Child-invested Contingent Self-esteem.

So far, three sources of distal antecedents were introduced, which are hypothesized to evoke more controlling parenting. Yet, it is possible that a more proximal antecedent intervenes between these distal pressures and controlling parenting. Hence, a second key aim of the present dissertation consists of identifying such a more proximal antecedent of parenting, which may serve as a mediator (Hypothesis 3) or moderator (Hypothesis 4) in the relation between pressure and parenting. This more proximal antecedent may help to explain why or under which conditions each of the more distal pressures, mentioned above, translate into more controlling relative to autonomy-supportive parenting. Although other proximal antecedents are possible, for the purpose of the present dissertation, we focus on parents' child-invested contingent self-esteem in the achievement domain. (Note. In the interpersonal domain we did not introduce such a more proximal antecedent.)

Research on self-esteem has focused primarily on people's level of self-esteem, thereby distinguishing between high and low self-esteem (Baumeister, Smart, & Boden, 1996). More recently, the quality of individuals' self-esteem has been considered (e.g., Kernis, Lakey, & Heppner, 2008), as indexed for instance by the degree to which self-esteem is contingent (Deci & Ryan, 1995). Contingent self-esteem involves the tendency to hinge one's ego on one's performance and is marked by a heightened sensitivity to the judgment and evaluation of others. When highly contingent, individuals' self-worth is perceived as being dependent on matching particular criteria of excellence. Meeting these criteria provides a boost to one's ego, while failing to do so involves a blow to one's self-worth. While some researchers have conceptualized contingent self-esteem as a global attribute (e.g., Kernis, 2003), others (e.g., Crocker & Wolfe, 2001) have emphasized its domain specificity, thereby suggesting that individuals differ in the domains in which they invest their self-worth.

Contingent self-esteem has been found to relate to a wide range of psychosocial and academic problems even when controlling for level of self-esteem (e.g., Burwell & Shirk, 2006; Crocker & Luhtanen, 2003; Kernis et al., 2008). Next to such intrapersonal costs, contingent self-esteem also yields interpersonal problems. For instance Park and Crocker (2005) demonstrated that highly contingent individuals are perceived as less supportive and likable by an unfamiliar interaction partner who was asked to disclose a problem during a joint conversation.

People can also invest their self-esteem in their social relationships. Herein, Knee, Canevello, Bush, and Cook (2008) defined relationship-contingent self-esteem as the degree to which people have their self-regard hooked on the nature, process, and outcomes of one's relationships. Yet, we reasoned that because many parents invest considerable time and resources in their children, parents' self-worth may potentially depend on the parent-child relationship and, more specifically, on their children's achievement. Parental child-invested contingent self-esteem then refers to parents' inclination to measure their self-worth in terms of the successes and failures of their offspring. The more parents' self-worth is implicated in their offspring's achievements, the more their self-esteem peaks when their children succeed and the more their self-worth plummets when their children fail. Parental child-invested contingent self-esteem can be expected to relate to increased parental use of a controlling style. Parents high on child-invested contingent self-esteem are hypothesized to use more controlling parenting as they see the use of pressure as a logical short-cut to achieve the desired outcome of having a successful child. We investigate the relation between parental child-invested contingent self-esteem and controlling parenting in the achievement domain both concurrently (Chapter 2, Study 1 and Chapter 3) and longitudinally (Chapter 2, Study 2). We also investigate how parental child-invested contingent self-esteem is related to parents' promotion of intrinsic and extrinsic goals in their child rearing (Chapter 4). Moreover, we consider two possible roles for parental child-invested

contingent self-esteem, that is, a mediating (Hypothesis 3) or moderating (Hypothesis 4) role.

Hypothesis 3: Parental child-invested contingent self-esteem can serve as a *mediator* between the distal antecedents and controlling parenting. When parents' self-worth is implicated in their children's achievements, parents are hypothesized to more easily conceive the use of parental control as a logical short-cut to achieve their desired goal of having a successful child. We will investigate whether the earlier identified distal pressures on parents relate to a higher inclination in parents to invest their self-worth in their children's performance, which then transfers to controlling parenting (i.e., mediation of child-invested contingent self-esteem).

Specifically with respect to distal social pressure (Chapter 2 and 3), this means that parents who are more inclined to experience social pressure to be an achievement-oriented parent would be more likely to buy into the message that their self-worth can be equated with their children's achievements. The heightened inclination of parents' self-worth in the achievements of their child in turn explains why parents who reported more social pressure display elevated levels of controlling parenting.

Parental child invested contingent self-esteem may also mediate the relation between children's competence level and parental control (Chapter 2). This means that children's low achievement may result in more parental control because low achieving children may elicit more parental child-invested contingent self-esteem.

Finally, parental child-invested contingent self-esteem can be mediator in the relation of (a) parents' motivational orientation (Chapter 2) and (b) parents' unfulfilled dreams (Chapter 3) with controlling parenting. First, we reason that parents scoring high on a controlled orientation, in an attempt to protect their own self-esteem (Hodgins & Knee, 2002), are more prone to increase control towards the child because they evaluate their self-worth in terms of how well their children are capable of meeting external

expectations for achievement. In contrast, parents with an autonomous orientation may have a more stable sense of self-esteem that is not contingent on achieving a particular outcome with the child. An autonomous orientation would therefore be unrelated or negatively related to parental child-invested contingent self-esteem and subsequent controlling parenting. Second, we hypothesize that parents who report more unrealized dreams in their own developmental history are more controlling because they more easily see their children's achievement as a compensation for their unfulfilled dreams and report increased self-esteem if their child achieves their unrealized ambitions.

Hypothesis 4: Parental child-invested contingent self-esteem can serve as a *moderator* between the distal antecedents and controlling parenting. Parental child-invested contingent self-esteem may also play a moderating role. In this case, the distal pressures translate into controlling parenting more easily among parents high on child-invested contingent self-esteem. Again, we consider the moderating position of parental child-invested contingent self-esteem for each of the three distal pressures. As regards social pressure on parents (Chapter 2 and 3), a moderating role of parental child-invested contingent self-esteem implies that pressure on parents translates into more controlling parenting for those parents high on child-invested contingent self-esteem. Said differently, social pressure on parents may predominantly relate to parents' use of control if at least parents are high on child-invested contingent self-esteem.

For children's school-related competence, a moderating role of parental child-invested contingent self-esteem implies that children's low achievement may primarily relate to controlling parenting when combined with high levels of parental child-invested contingent self-esteem (Chapter 2). In particular for parents high on child-invested contingent self-esteem, poor child achievement may represent a source of pressure because it threatens parents' own self-esteem.

Finally, with respect to pressure resulting from parents' own functioning, the moderating role of parental child-invested contingent self-esteem will mainly be investigated in regard to parents' promotion of extrinsic relative to intrinsic goals (Chapter 4). Research has shown that, on average, parents tend to promote precisely those goals to their children they value themselves (e.g., Benish-Weisman, Levy, & Knafo, 2013). Accordingly, it can be expected that parents who pursue extrinsic goals themselves are more likely to promote those goals towards their child. It should be noted, however, that this association is far from perfect, indicating that parents differ in the degree to which they promote the goals they hold themselves to their children. Herein, we considered the possibility that parents' child-invested contingent self-esteem affects the degree to which parents' personal extrinsic relative to intrinsic goal pursuit manifests in the promotion of those goals to their children. In other words, child-invested contingent self-esteem may moderate the association between parents' personal pursuit of goals and their promotion of those goals.

Goal 3: From Pressure on Parents to a Broad Variety of Outcomes

We initiated our investigation of the antecedents of parenting because past research has provided convincing evidence for the negative effects of controlling parenting and the positive effects of autonomy-supportive parenting on children's functioning. Yet, most research to date has focused on child outcomes, thereby ignoring the possibility that also parents themselves as well as the dyadic interplay between parents and children may be influenced by parents' use of control relative to autonomy support (Hypothesis 5). Furthermore, the effect of distal pressures on parents to a variety of outcomes directly or via controlling relative to autonomy-supportive parenting has not been investigated in an integrated process model (Hypothesis 6).

Hypothesis 5: Pressure on parents will impact on parents' own functioning and the functioning of the parent-child dyad. Research to date has mainly focused on child consequences of pressure on parents, thereby ignoring the impact on parents. Yet, in the present dissertation we will (a) address how the distal pressures impact on parents' emotional and motivational experiences and (b) identify the parental correlates of parents' use of control relative to autonomy support. As regards the direct impact of the distal pressures on parents' emotional and motivational experiences, we hypothesize that parents suffer, both emotionally and motivationally, from high levels of the distal pressures in both the achievement and interpersonal domain (Chapter 5 and 7).

Similarly, little attention has been devoted to the parental outcomes of controlling relative to autonomy-supportive parenting. Research in horizontal relationships (i.e., in close friendships), however, has indicated that autonomy support not only yield benefits for the receiver but also for the provider of autonomy support (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). One may wonder whether the positive effects associated with the provision of autonomy-support within close friendships can also be observed in more hierarchical parent-child relationships. Herein, we hypothesize that parents will benefit themselves from providing autonomy support to their children and detriment themselves form controlling interactions with their child. We will investigate this hypothesis in both the achievement domain, in which we included parents' task engagement (Chapter 5), and the interpersonal domain, in which we included outcomes such as parents' need satisfaction and conversation pleasure (Chapter 6).

The effects of controlling relative to autonomy-supportive parenting may also radiate to the dyadic level. In this context, Weinstein, Hodgins, and Ryan (2010) have argued and shown that observed reciprocity is an important behavioral indicator of dyadic interaction quality. It manifests in behavioral attunement between interaction partners through non-verbal behavior such as leaning towards each other, joint laughter and behavioral

synchronicity. Such reciprocity is considered as an important observable effect of controlling relative to autonomy supportive behavior (La Guardia & Patrick, 2008). Indeed, Weinstein and colleagues (2010) showed that an experimental induction of autonomy in dyads of students who worked together on a number of tasks led to more observed reciprocity. In turn, reciprocity was beneficial for their ultimate task performance and their positive affect during the task. However, whether controlling relative to autonomy-supportive parenting affects reciprocity specifically within parent-child dyads has never been investigated. We hypothesize that in both the achievement (Chapter 5) as well as the interpersonal (Chapter 6) domain, controlling parenting will relate negatively to the parent-child dyadic reciprocity.

Hypothesis 6: Pressure on parents transfers through the parenting dimensions on a variety of outcomes. Given that pressure on parents is hypothesized to lead to more controlling parenting and given that controlling parenting is hypothesized to undermine parents' and children's personal and dyadic functioning, we also aimed to address the intervening role of controlling parenting in relations between pressure on parents and those personal and dyadic outcomes. Pressure on parents is hypothesized to translate into more parental control and reduced autonomy support, which in turn may lead to disturbances in individual and dyadic functioning (see also Figure 2). In the achievement domain, we will investigate the entire process model of pressure (Chapter 5), whereas in the interpersonal domain only the second part of this process model will be addressed (Chapter 6).

Goal 4: Testing the Generalizability of the Proposed Model

A final goal was to investigate whether our process model of pressure can be generalized across children's age, parental gender, domain, and culture (Hypothesis 7) and across different operationalization of controlling relative to autonomy-supportive parenting (Hypothesis 8).

Hypothesis 7: The process model of pressure can be generalized across children's age, parental gender, the domain, and the culture under investigation.

We purpose that pressure on parents results in more controlling parenting regardless the association will be investigated in different periods of child's development, within mothers or fathers, in the achievement or in the interpersonal domain, and under different cultural contexts. The generalizability of the relation between pressure and parenting is assumed on the basis of SDT, which states that pressure impairs individuals' need for autonomy (Deci & Ryan, 2012; Ryan & Deci, 2000). Recent research has demonstrated the universality of individuals' need for autonomy (Chen et al., 2014) and has shown that, across age (e.g., Ryan, Deci, Grolnick, & La Guardia, 2006), gender (e.g., Deci et al., 2006; Vallerand, 1997), and culture (e.g., Chen et al., 2014; Chirkov, Ryan, Kim, & Kaplan, 2003), frustration of people's need for autonomy leads to decreased psychological well-being. Yet, whereas the universality of the relation between controlling parenting and its detrimental outcomes has been demonstrated with compelling evidence across children's age (e.g., Barber, Stolz, & Olsen, 2005; Caron, Weiss, Harris, & Catron, 2006), parental gender (e.g., Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Soenens et al., 2010), domain (e.g., Soenens & Vansteenkiste, 2005), and culture (e.g., Barber et al., 2005; Soenens et al., 2012; Vansteenkiste et al., 2005), the generalizability of the relation between pressure on parents and controlling parenting has been investigated to a lesser degree. Therefore, it was deemed important to investigate the generalizability of the relation between distal and proximal sources of pressure and controlling parenting. Moreover, we hypothesize to find similar relations between pressure on parents and parenting irrespective of child's age (Chapter 2), parental gender (Chapter 2), domain (Part I relative to Part II), and culture (Chapter 3) under investigation.

Hypothesis 8: Parents' use of controlling relative to autonomy-supportive practices can be observed in a reliable and valid way in both the achievement and interpersonal domain. Another way in which the present dissertation builds on previous research is by including observations rather than self-reports of parents' use of control relative to autonomy support in both the achievement (Chapter 5) and the interpersonal domain (Chapter 6). Such an observation-based measure has several advantages. At the methodological level it allows for a more conservative test of the hypothesized association with the outcomes as well as the antecedents. Next, while associations of self-reported pressure with self-reports of parenting dimensions can be affected by factors such as response tendency and social desirability, associations with observed parental behavior are not influenced or inflated by such factors. Further, observations of controlling relative to autonomy-supportive practices can yield more insight in the way how these parenting dimensions manifest in actual interactions in both the achievement and the interpersonal domain. Especially in the latter domain, research on observed parenting practices is relatively scarce. Yet, such insight can help to inform parents and practitioners in greater detail about how to implement an autonomy-supportive interaction and how to avoid a controlling interaction in this domain.

Overview of the Empirical Chapters

In sum, four general gaps in the literature on the antecedents of controlling parenting were addressed throughout six empirical chapters. The different studies involved samples comprising parents of elementary school children as well as parents of adolescents. Samples were gathered with the intention to obtain substantial variability with respect to parental and child gender, level of education, and family structure. By doing so we tried to gather samples that are representative of the larger population of families in Flanders (or China in Chapter 3). We addressed shortcomings related to the

generalizability of our findings due to sampling errors in the Limitation section of each chapter.

In Part I we investigate our hypotheses in the achievement domain, whereas in Part II we investigate our hypotheses in the interpersonal domain. In each of the domains several designs and methods were used to draw conclusions about our hypotheses. Specifically, we relied on concurrent, longitudinal, and cross-cultural designs. Furthermore, apart from solely relying on self-reports we included observations and manipulations of several constructs in the proposed model. Table 1 provides a brief overview of some methodological characteristics (i.e., study design, method, sample characteristics, and main analytical techniques) of each of the studies.

Table 1

Overview of the Empirical Studies

Goal			Design	Method	Total N	Age range (% girls)	Analytical techniques
Part I: Achievement domain							
Chapter 2	1 2 4	Study 1	Cross-sectional	Child- and Parent-reports	254 mothers 248 fathers 254 children	7-16 (51)	SEM; multigroup
		Study 2	Longitudinal	Parent-reports	186 parents	8-12 (50)	SEM; multigroup
Chapter 3	1 2	Belgium	Cross-cultural	Parent-reports	209 mothers 209 fathers	13-15 (60)	ANOVA; SEM; multigroup
	4	China			209 mothers 203 fathers	13-15 (56)	
Chapter 4	2 3		Cross-sectional	Parent-reports	184 mothers 184 adolescents	14-20 (66)	regression
Chapter 5	1 3 4		Experimental	Observations	124 parent-child dyads	9-13 (47)	ANOVA; regression; SEM
Part II: Interpersonal domain							
Chapter 6	3 4		Cross-sectional	Observations	62 mother-adolescent dyads	12-16 (77)	SEM
Chapter 7	1 4		Experimental	Observations	Same sample as Chapter 6		ANOVA; regression

Note. ANOVA = univariate analysis of variance, SEM = structural equation modeling.

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Part I

Antecedents and Outcomes of Controlling Parenting in the Achievement Domain

Chapter 2

An Examination of the Dynamics Involved in Parental Child-Invested Contingent Self-esteem[1]

The present study examined dynamics involved in parents' tendency to hinge their self-esteem on their children's achievements (i.e., child-invested contingent self-esteem). In two studies we tested a model in which perceived social pressure to be an achievement-promoting parent, and parents' own controlled causality orientation, served as antecedents of parental child-invested contingent self-esteem which, in turn, was related to achievement-oriented psychologically controlling parenting. Study 1 was a cross-sectional study in which 254 mothers, 248 fathers, and their 12-year-old children completed a self-report survey. Study 2 was a short-term longitudinal study of 186 parents of 10-year-old children. Both studies provided support for the hypothesized model. Study 1 showed that the model held even when controlling for parents' level of self-esteem. Study 2 showed that increases in parental child-invested contingent self-esteem were related to increases in achievement-oriented psychologically controlling parenting even when controlling for child performance. Parents' tendency to invest their self-worth in their child's performance is related to a psychologically controlling parenting style and is influenced by parents' personality as well as their perception of the social environment.

[1] Wuyts, D., Vansteenkiste, M. Soenens, B., & Assor, A. (in press). An examination of the dynamics involved in parental child-invested contingent self-esteem. *Parenting: Science and Practice*

Introduction

Children's failure to perform well in achievement settings may not only be painful for children, but may also undermine their parent's self-esteem. Jones and Prinz (2005) reviewed evidence that children's low achievement is related to low parental self-efficacy and to parental feelings of incompetence. The undermining effect of children's failure on parents' self-esteem may occur mainly in parents who hinge their self-esteem on their child's performance, such that the child's achievements are perceived to be integral to the parent's self-worth. The purpose of the present investigation is to study dynamics involved in parental child-invested contingent self-esteem. Attention is paid to both the antecedents and outcomes of parents' child-invested contingent self-esteem, with a specific focus on the role of parents' child-invested contingent self-esteem in psychologically controlling parenting.

Child-invested Contingent Self-esteem and Psychologically Controlling Parenting

Contingent self-esteem involves the tendency to hinge one's self-esteem on the attainment of particular criteria for achievement (Kernis, Lakey, & Heppner, 2008). People can invest their self-esteem in personal achievements and in the achievements of others. Given that most parents invest considerable time and resources in their children, their self-worth is particularly likely to depend on their children's achievement. Child-invested contingent self-esteem refers to parents' inclination to measure their self-worth in terms of the successes and failures of their offspring (Ng, Pomerantz, & Deng, 2014). The more parents' self-worth is implicated in their offspring's achievements, the more their self-esteem peaks when their children succeed and the more their self-worth plummets when their children fail. Parental child-invested contingent self-esteem refers to a controlled and parent-centered orientation towards the child's achievement, where parents feel pressured to prove their worth as a person. This orientation can be

contrasted with a more autonomous and child-centered orientation, where parents have a genuine interest in the child's development in achievement-related contexts such as school (Grolnick, 2014).

Parental child-invested contingent self-esteem is considered a risk factor for parental engagement in psychologically controlling behaviors (Ng et al., 2014). Psychological control is defined as an intrusive and manipulative parenting style in which parents use strategies, such as guilt-induction and conditional regard, to pressure a child to behave in accordance with parental standards (Barber, 1996). Psychologically controlling parenting is a robust predictor of problem behaviors in children (e.g., Soenens & Vansteenkiste, 2010) and of difficulties in the domain of learning and school (e.g., Ng, Kenney-Benson, & Pomerantz, 2004). One specific manifestation of psychologically controlling parenting is achievement-oriented psychological control, which is defined as the use of psychologically controlling tactics to pressure the child to attain high standards for performance (Soenens, Vansteenkiste, & Luyten, 2010). Achievement-oriented psychologically controlling parenting is distinct from healthier forms of parental involvement in children's learning and achievement. Such healthier forms of parental involvement can take the form of structure, where parents support children's competence (e.g., by monitoring the child's learning process and by giving constructive feedback; Farkas & Grolnick, 2010). The provision of structure is largely orthogonal to parental use of psychologically controlling tactics (Soenens & Vansteenkiste, 2010). That is, parents can provide structure either in a controlling fashion or in a more autonomy-supportive fashion.

Parental child-invested contingent self-esteem is expected to relate positively to achievement-oriented psychological control because parents high on this orientation might see the use of psychologically controlling tactics as a logical and cost-efficient short-cut to achieve the desired outcome of having a successful child. In line with this reasoning, Ng et al. (2014) found that maternal child-invested contingent self-esteem was related

to psychologically controlling parenting in samples of Chinese and American participants. However, they did not find effects of parental child-invested contingent self-esteem on changes in psychologically controlling parenting across a 1-year interval. Because only a handful studies has examined the hypothesized association between parental child-invested contingent self-esteem and psychologically controlling parenting, the present research aimed to further examine this association in a systematic way, that is by using different informants, by examining the moderating roles of age and gender, and by adopting a dynamic, short-term longitudinal approach.

Antecedents of Parental Child-invested Contingent Self-esteem

An additional aim of the present research was to investigate why some parents display more child-invested contingent self-esteem than others. Specifically, in line with Grolnick and Apostoleris's (2002) model of antecedents of controlling parenting, we focused on the role of (1) pressures from within parents' personal functioning, that is parents' causality orientations, and (2) contextual pressures, that is parents' perceived social pressure to be an achievement-promoting parent.

Causality orientations are considered relatively enduring motivational orientations that characterize people's personality functioning (Deci & Ryan, 1985). A controlled orientation is characteristic of individuals who regulate their behavior on the basis of internal and external demands. As individuals scoring high on this orientation are sensitive to external expectations and pressures, we hypothesized that they would be more prone to evaluate their self-worth in terms of how capable their children are of meeting external expectations for achievement. In contrast, an autonomous orientation is characteristic of individuals whose actions are grounded in self-endorsed values and interests. We expected that an autonomous orientation would relate negatively to child-invested contingent self-esteem as parents with this orientation focus more on informational (rather than evaluative) aspects of their environment and have a more secure

sense of self-worth (Deci & Ryan, 1985). Indirect evidence for these hypotheses was provided by Hodgins, Brown, and Carver (2007, Study 2), who found that the experimental priming of a controlled orientation, relative to an autonomous orientation, led individuals to display more fragile self-esteem (Kernis et al., 2008).

Whereas a controlled causality orientation can be considered a source of pressure within parents' own functioning, social pressures arising from the broader socio-cultural context can also prime parents' child-invested contingent self-esteem (Grolnick & Apostoleris, 2002). Parents are embedded in a network of social relationships which, in turn, are embedded in the broader society characterized by a particular ideological system (Bronfenbrenner, 1979; Deci & Ryan, 2012). Due to the increasing impact of corporate capitalism across the globe and the meritocratic ideology underlying the capitalistic economic system, it has been noted there is an increasing societal emphasis on performance and excellence in diverse life domains (Kasser, Cohn, Kanner, & Ryan, 2007). Consistent with such commentaries, Schwartz (2007) showed that cultural values associated with corporate capitalism are highly correlated with the average importance individuals attribute to achievement in a society. One potential implication of such a societal emphasis on achievement is that parents may feel they are held accountable for their children's successes and inevitably also for their children's failures (Grolnick & Seal, 2008).

The societal pressure to be an achievement-promoting parent may be conveyed through different channels, including the media, the children's school, other parents, grandparents, or one's partner (Bronfenbrenner, 1979). We hypothesized that parents who are more inclined to experience social pressure to be achievement-oriented would feel more responsible for their children's performance and would be more likely to buy into the message that their self-worth can be equated with their children's achievements. Deci, Spiegel, Ryan, Koestner, and Kauffman (1982) provided indirect evidence for this hypothesis in an experimental study involving peer-tutoring. Tutors

who were held accountable for the performance of the student were rated as being more controlling towards the student compared to tutors who were simply instructed to help the student.

Given that research has shown that low child achievement represents an important predictor of parents' increasing use of control (e.g., Pomerantz & Eaton, 2001), we also examined the nature of the interplay between parents' child-invested contingent self-esteem and child achievement in relation to psychologically controlling parenting. Specifically, we considered two alternative hypotheses. One possibility is that the association between parental child-invested contingent self-esteem and psychologically controlling parenting would vary with the child's level of achievement. Parental child-invested contingent self-esteem may primarily relate to psychologically controlling parenting when combined with low child achievement because low achievement would represent a threat for parents high on child-invested contingent self-esteem. An alternative possibility is that parents high in child-invested contingent self-esteem would engage in more psychological control irrespective of the child's level of achievement. Because these parents would be continuously looking for ways to enhance their self-esteem, they would use high levels of psychological control irrespective of whether the child's performance is high or low.

The Present Studies

In two studies we pursued three research aims. First, we examined a process model of parental child-invested contingent self-esteem including achievement-oriented psychologically controlling parenting as an outcome and perceived social pressure to be an achievement-promoting parent and parents' causality orientation as antecedents. We hypothesized that, through child-invested contingent self-esteem, parents transmit the pressures they experience from within (i.e., their causality orientation) or from their social context (i.e., perceived social pressure to be an achievement-promoting parent) to their children by using more achievement-oriented psychological

control. We investigated this proposed model among parents of elementary and secondary school children and assessed both child and parent reports of achievement-oriented psychological control. Moreover, we tested the robustness of our model by controlling for parents' level of self-esteem. Second, we examined dynamic (i.e., short-term longitudinal) associations between changes in parental child-invested contingent self-esteem and changes in achievement-oriented psychological control. Third, we investigated whether the child's achievement (as indicated both by the child's actual exam results and by the parents' perception of the child's achievement) would moderate the relation between parental child-invested contingent self-esteem and psychologically controlling parenting.

Study 1

The aim of Study 1 was to test our hypothesized model in a stringent way by relying on different informants for the different constructs in the model and by controlling for parents' level of self-esteem. Controlling for differences in the level of self-esteem was deemed critical as past research has shown that contingent self-esteem and level of self-esteem are negatively related (e.g., Kernis et al., 2008). As a consequence, any association between parental child-invested contingent self-esteem and achievement-oriented psychological control could be accounted for by parents' level of self-esteem. Furthermore, we addressed the possible moderating role of the children's age in an exploratory fashion. Two hypotheses seemed plausible. On the one hand, children's age-related declines in motivation typically observed in research (e.g., Gottfried, Fleming, & Gottfried, 2001) may increasingly be perceived as a threat to parents high on child-invested contingent self-esteem, such that they increasingly engage in achievement-oriented psychological control as the child grows older. On the other hand, the association between child-invested contingent self-esteem and psychological control may show up irrespective of the child's age because

child-invested contingent self-esteem may be a relatively stable parental feature that manifests in similar ways across developmental periods.

Method for Study 1

Participants and Procedure

A total of 254 Dutch-speaking Belgian families including 254 mothers, 248 fathers, and 254 children participated in this study. Half of the sample consisted of families with children in elementary school (grades 4-6), whereas the other half of the sample consisted of families with adolescents attending middle school or high school (grades 7-11). On average, mothers were 42 years old (*SD* = 4.61; *range* = 27-56), and fathers were 45 years old (*SD* = 5.26; *range* = 27-59). The elementary school children were 10 years old on average (*SD* = .93; *range* = 7-12) and 52% were female. The adolescents were 14 years old on average (*SD* = 1.14; *range* = 12-16) and 51% were female. Eighty-four percent of the mothers and fathers reported that they were married or living together with the other biological parent of the child. Most families included 2 (i.e., 44%) or 3 (i.e., 35%) children, whereas only 4% of the families included 1 child and 16% of the families included more than 3 children. One child per family participated in the study. Parents were asked to keep this target child in mind when filling out the questionnaires. Parents were relatively highly educated, as 71% and 59% of the mothers and fathers, respectively, had obtained a college or university degree.

Families were recruited as part of an undergraduate course in developmental psychology in which students were asked to invite two families (who were not relatives or close friends of the student) to participate in the study. Students were trained to approach potentially interested families. They briefly explained the purpose of the study and asked both parents and adolescents to orally consent to participation. Questionnaires with detailed information and instructions were provided by the undergraduate students during a home visit and were filled out in the

absence of the student who recruited the family. The first page of the instructions emphasized that participation was voluntary and data would be treated confidentially. After filling out the questionnaires, family members put their questionnaires in separate, sealed envelopes and returned these envelopes to the student who, in turn, returned them to the researchers.

Measures

All items were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Mothers and fathers filled out questionnaires tapping into parental child-invested contingent self-esteem, general level of self-esteem, perceived social pressure to be an achievement-promoting parent, and causality orientations. Children provided ratings of achievement-oriented psychological control. Scale scores were computed by taking the mean of the scale items.

Child-invested contingent self-esteem. We used an available, yet not formally validated scale (Assor, Roth, Israeli-Halevi, Freed, & Deci, 2007), herein labeled the Child-invested Contingent Self-Esteem Scale. This scale contains items assessing the extent to which parents' self-esteem is contingent on children's achievement in general (3 items; e.g., "How I feel about myself is often related to my child's achievements.") as well as on the child's successes (6 items; e.g., "When my child succeeds I feel good about myself."), and on the child's failures (6 items; e.g., "My child's failure is also my failure."). Results of an exploratory factor analysis on the current sample (using principal axis factoring) supported one-factor solutions for both the maternal and the paternal data. The scree-plot indicated a clear elbow after the first retained factor, thereby explaining 44% and 40% of the variance in the maternal and paternal responses, respectively. All items had a minimal loading of .40. Cronbach's alphas were .91 for mothers and .89 for fathers.

We examined the validity of this scale in a pilot study among 311 Belgian mothers, *M* age = 45 years, and 311 fathers, *M* age = 47 years, and

their adolescent daughter or son, 50% female; *M* age = 16 years. We correlated the scale for parental child-invested contingent self-esteem with measures of parental personal standards perfectionism and evaluative concerns perfectionism (Frost, Marten, Lahart, & Rosenblate, 1990). Theoretically, perfectionists are likely to hinge their self-worth on the achievement of standards for excellence (DiBartolo, Li, & Frost, 2008). Consistent with this notion, parental child-invested contingent self-esteem correlated positively with both parental personal standards perfectionism, $r(311) = .33$, $p < .001$, and $r(311) = .37$, $p < .001$, for maternal and paternal ratings, respectively, and parental evaluative concern perfectionism, $r(311) = .43$, $p < .001$, and $r(311) = .50$, $p < .001$, for maternal and paternal ratings, respectively.

Level of self-esteem. General level of self-esteem was measured using the Rosenberg (1965) self-esteem scale (e.g., "On the whole, I am satisfied with myself."). Cronbach's alphas were .87 for mothers and .86 for fathers.

Social pressure to be an achievement-promoting parent. To assess parents' perceived social pressure to be an achievement-promoting parent, we developed 30 face valid items tapping into 5 different sources of perceived social pressure (i.e., grandparents, partner, other parents, the school, and the media). Parents rated the extent to which a particular source made them feel as if they were responsible for their children's achievements. The same set of 6 items was used for each of these 5 sources. Three items were oriented towards the attainment of a positive outcome (e.g., "My partner makes me feel responsible for the performance of my child."), and three items were oriented towards the avoidance of a negative outcome (e.g., "The school expects me to make sure my child doesn't fail."). Results of an exploratory factor analysis on the current sample (using principal axis factoring) supported one-factor solutions for both the maternal and the paternal data. The scree-plot indicated a clear elbow after the first retained factor, which explained 45% and 48% of the variance in the maternal and

paternal responses, respectively. All items had a minimal loading of .54. Cronbach's alphas were .95 for both mothers and fathers.

The validity of this scale was examined in a second pilot study among 102 Belgian mothers, *M* age = 40 years, and 90 fathers, *M* age = 44 years. The target children of these parents were 49% female and were 12 years old on average. The scale for perceived social pressure to be an achievement-promoting parent was correlated with a measure of societal prescribed perfectionism, a subscale of the Multidimensional Parenting Perfectionism Questionnaire (MPPQ; Snell Jr., Overbey, & Brewer, 2005). Societal prescribed parenting perfectionism involves the belief that society in general expects one to be a perfect parent. As expected, perceived social pressure correlated positively with societal prescribed parental perfectionism, $r(100) = .53$, $p < .001$, and $r(90) = .53$, $p < .001$, for both maternal and paternal ratings, respectively.

Causality orientations. The General Causality Orientations Scale (GCOS; Deci & Ryan, 1985) was used to measure parents' autonomy and controlled causality orientations. The questionnaire consists of 12 vignettes, each representing a situation in daily life (e.g., "You had a job interview several weeks ago. In the mail you received a form letter which states that the position has been filled. It is likely that you might think…."), followed by items reflecting the two different motivational orientations. An example item for the autonomous orientation reads: "Somehow they didn't see my qualifications as matching their needs." An example of the controlled orientation reads: "It's not what you know, but who you know." Parents rated both the items tapping into the autonomous and the controlled orientation and were not asked to make a forced choice. Information about the psychometrics and validity of this scale is presented in Deci and Ryan (1985). Cronbach's alphas were .69 and .72 for the autonomous orientation and .74 and .76 for the controlled orientation for maternal and paternal ratings, respectively.

Child-reported achievement-oriented psychological control. Achievement-oriented psychological control was assessed with the corresponding 9-item scale from the Dependency-Oriented and Achievement-Oriented Psychological Control Scale, a well-validated measure taping into two domain-specific manifestations of psychologically controlling parenting (Soenens, et al., 2010). This measure was administered to the children, who provided ratings for mothers and fathers separately. Sample items read as follows: "My mother/father only shows her/his love if I get good grades." Cronbach's alphas were .82 and .88 for the child-reported maternal and paternal ratings, respectively.

Results for Study 1

Preliminary Analyses

Table 1 provides the descriptive statistics and correlations between the study variables. Parental child-invested contingent self-esteem was positively associated with social pressure to be an achievement-promoting parent, the controlled orientation, and child-reported achievement-oriented psychological control in both the maternal and paternal data. In contrast, the association with the autonomy causality orientation did not reach significance. Furthermore, although the autonomous orientation displayed a small negative correlation with child-reported achievement-oriented psychological control in the paternal data, this association became non-significant when controlling for the variance shared with the controlled causality orientation in a multiple regression analysis, $\beta = -.12$, *ns*. Therefore, we decided not to include the construct of autonomy causality orientation in the main analyses.

Next, we conducted a repeated-measures multivariate analysis of covariance with the study variables as dependent variables, with parent gender as a within-subjects variable, child gender and family structure (whether or not the family was intact) as between-subjects variables, and with parental education level, parental age, and child age as covariates. Only

Table 1

Descriptive Statistics, Internal Consistencies, and Correlations in Study 1

		Mother	Father	1	2	3	4	5	6
		M (*SD*)	*M* (*SD*)						
1.	Child-invested contingent self-esteem	2.50 (0.68)	2.47 (0.63)	-	-.25***	.47***	.37***	-.11	.19**
2.	Level of self-esteem	3.42 (0.47)	3.50 (0.44)	-.14*	-	-.15*	-.14*	.13*	-.06
3.	Social pressure to be an achievement-promoting parent	2.45 (0.70)	2.53 (0.69)	.43***	-.08	-	.24***	-.15*	.08
4.	Controlled orientation	2.47 (0.57)	2.65 (0.58)	.41***	-.06	.31***	-	-.29***	.20**
5.	Autonomous orientation	4.19 (0.40)	4.03 (0.44)	-.12	.29***	-.05	-.27***	-	-.17**
6.	Child-reported achievement-oriented psychological control	1.71 (0.67)	1.65 (0.71)	.29***	-.09	.13*	.14*	-.10	-

Note. Correlations between the maternal variables are shown below the diagonal. Correlations between the paternal variables are shown above the diagonal. *$p < .05$. **$p < .01$. ***$p < .001$.

maternal educational level yielded an overall significant association, Wilks' Lambda = .89, $F(5, 219) = 5.33$, $p < .001$. Follow-up univariate tests indicated associations of maternal educational level with controlled orientation, $F(1, 223) = 14.73$, $p < .001$, general level of self-esteem, $F(1, 223) = 8.75$, $p < .01$, and achievement-oriented psychological control child report, $F(1, 223) = 4.79$, $p < .05$. Parameter estimates showed that with increasing level of education mothers reported lower controlled orientation and higher self-esteem, and had children who reported less achievement-oriented psychological control. Given these results, we controlled for maternal educational level in the main analyses.

Structural Equation Modeling

Our hypothesized model involved paths from the two presumed antecedents to parental child-invested contingent self-esteem which, in turn, was related to achievement-oriented psychological control. This model was tested separately for maternal and paternal ratings. Moreover, we controlled for maternal educational level (in the maternal model) for level of self-esteem in both the maternal and paternal model. To examine this model, we performed Structural Equation Modeling (SEM) analyses using MPlus 6 software with robust maximum likelihood estimation (Muthén & Muthén, 2010). Latent variables were constructed through parceling, with each latent variable being represented by three parcels. Parcels were created by combining a random selection of scale items (Little, Cunningham, Shahar, & Widaman, 2002). We inspected the comparative fit index (CFI), the root-mean-square residual (RMSEA), and the standardized root-mean-square residual (SRMR). Values lower or close to .06 for RMSEA and .09 for SRMR and values of .95 or higher for CFI reflect adequate fit (Hu & Bentler, 1999).

In a first step, we investigated the measurement model with 5 latent variables. The estimated measurement models had a good fit for both the mother data, SBS-$\chi^2(80) = 70.91$, *ns*, RMSEA = .00, SRMR = .03, CFI =

1.00, and the father data, SBS-$\chi^2(80) = 109.37$, $p < .05$, RMSEA = .04, SRMR = .04, CFI = .99. Factor loadings of the indicator variables on their latent factors were moderate to high, ranging from .74 to .97 for the maternal data and ranging from .66 to .97 for the paternal data, all *p*s < .001.

Next, the hypothesized structural model was estimated, SBS-$\chi^2(95) = 90.79$, *ns*, RMSEA = .00, SRMR = .04, CFI = 1.00, for mothers and SBS-$\chi^2(82) = 113.86$, $p < .05$, RMSEA = .04, SRMR = .05, CFI = .99, for fathers. As shown in Figure 1, all estimated paths were significant, even when controlling for background variables in the maternal model and for level of self-esteem in both models, the effects of which were not significant. We also investigated whether the two antecedents yielded a unique direct association with child-reported achievement-oriented psychological control. Adding these paths did not improve model fit, ΔSBS-$\chi^2(2) = 0.22$, *ns*, and ΔSBS-$\chi^2(2) = 4.91$, *ns*, for maternal and paternal ratings, respectively. Bootstrap analyses were conducted with 5000 samples to test the significance of the indirect effects (Hayes, 2009; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). These analyses indicated that the indirect association[2] between social pressure and child-reported achievement-oriented psychological control through parental child-invested contingent self-esteem was significant, $\beta = .11$, 95% CI .04 to .17, and $\beta = .09$, 95% CI .02 to .15, for the maternal and paternal ratings, respectively. Similarly, also

[2] We also examined a model in which, next to the direct links, interactions between parental child-invested contingent self-esteem and (a) social pressure to be an achievement-promoting parent and (b) controlled causality orientation in the prediction of child-reported achievement-oriented psychological control were investigated. The interaction term did not reach significance for the interaction between parental child-invested contingent self-esteem and controlled orientation, $t = 0.65$, *ns* and $t = 0.53$, *ns*, for maternal and paternal ratings, respectively. Yet, for the interaction with social pressure, in the maternal ratings a significant interaction with child-invested contingent self-esteem showed up, $t = 3.31$, $p < .01$, whereas this was not the case for the paternal ratings, $t = 1.21$, *ns*.

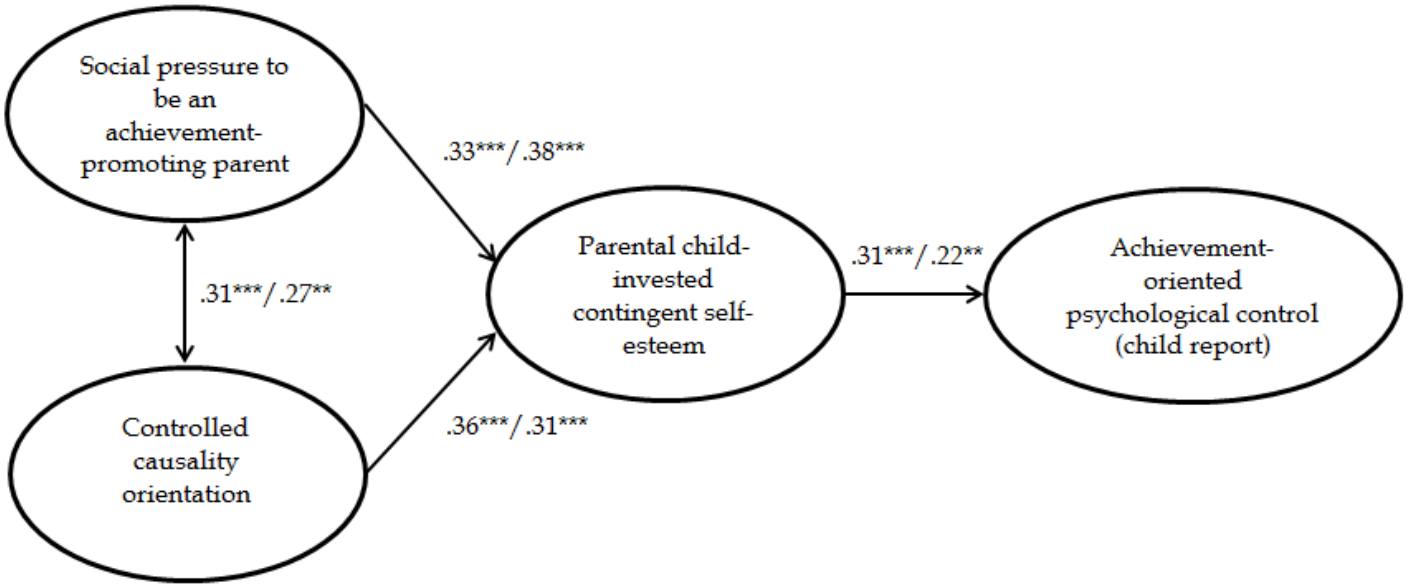

Figure 1. The structural model with standardized parameter estimates (Study 1). All associations shown are controlled for the background variables and for level of self-esteem. For clarity of presentation these associations are not displayed. Also the direct paths from the controlled causality orientation and social pressure to be an achievement-promoting parent to child-reported achievement-oriented psychological control were not significant and therefore not displayed. The first coefficient shown is for maternal ratings and the second coefficient is for paternal ratings. $^{**}p < .01$ $^{***}p < .001$.

the indirect association between controlled orientation and child-reported achievement-oriented psychological control through child-invested contingent self-esteem was significant, $\beta = .11$, 95% CI .04 to .19, and $\beta = .07$, 95% CI .01 to .13, for the maternal and paternal ratings, respectively.

Furthermore, we tested whether the structural relations of the model differed across the two age groups. We first examined the equivalence of the measurement model by performing a multi-group CFA comparing the fit of the measurement model between the elementary school children and high school children. The fit of the constrained model did not differ from the fit of the unconstrained model, $\Delta SBS\text{-}\chi^2(10) = 8.66$, *ns*, $\Delta CFI = .000$, for the mother model and $\Delta SBS\text{-}\chi^2(10) = 9.16$, *ns*, $\Delta CFI = .000$, for the father model, suggesting factorial invariance. Then, we compared a constrained version of the structural model (i.e., a model in which the path coefficients were set equal across the two subsamples) to an unconstrained model (i.e., a model in which the path coefficients were allowed to vary). The unconstrained model did not have a better fit than the constrained model, $\Delta SBS\text{-}\chi^2(4) = 1.42$, *ns*, $\Delta CFI = .001$, for the maternal ratings and $\Delta SBS\text{-}\chi^2(4) = 4.96$, *ns*, $\Delta CFI = .000$, for the paternal ratings, indicating that the model was structurally invariant across age groups.

Study 2

Apart from replicating the findings regarding the antecedents of parents' child-invested contingent self-esteem, Study 2 aimed to investigate whether increases in parents' child-invested contingent self-esteem would be related to increases in achievement-oriented psychological control. In the only longitudinal study on this issue to date, Ng et al. (2014) failed to find evidence for a longitudinal effect of parental child-invested contingent self-esteem. We revisited the possibility of a longitudinal association between parents' child-invested contingent self-esteem and psychologically controlling parenting by examining this association in a naturalistic context, that is during a parent-teacher conference where parents receive feedback on

the child's exam results. In addition, we aimed to examine whether this longitudinal association would be moderated by the child's achievement, thereby considering both the child's actual achievement and parents' perception of the child's performance.

Furthermore, we explored the potential moderating roles of parental and child gender. Examining the moderating role of gender was deemed important with regard to achievement-oriented psychological control because (1) fathers tend to score higher than mothers on this parenting dimension and (2) boys perceive this type of psychologically controlling parenting to be more prevalent than girls (Soenens et al., 2010). In spite of these mean-level differences, associations between achievement-oriented psychological control and outcomes are generally equivalent across gender (Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Soenens et al., 2010). It is less clear, however, whether the presumed antecedents of achievement-oriented psychologically controlling parenting would be invariant across gender.

Method for Study 2

Participants and Procedure

At Time 1 (beginning of the first semester of the school year), a total of 318 Dutch-speaking Belgian parents (167 mothers and 151 fathers) of elementary school children (grades 3-6) participated. Of all the parents who were asked to participate, 71% accepted the invitation. At Time 2 (end of the semester), a total of 186 parents (94 mothers and 92 fathers) participated again, representing a retention rate of 58%. Dropout from the study was caused by several factors, including the fact that some parents did not attend the parent-teacher conference, a lack of interest in the study, and a lack of time. At Time 2 we also obtained children's official exam results from their teachers. However, not all teachers provided all the information necessary to link children's school results to the questionnaires filled out by the parents, resulting in a final sample of 174 parents with complete data. On average

parents were 40 years old (*SD* = 4.57; *range* = 25-60), and children (50% female) had a mean age of 10 years (*SD* = 1.16; *range* = 8-12). Seventy-nine percent of the parents reported that they were married or living together with the other biological parent of the child. Most families included 2 (57%) or 3 (24%) children, whereas only 14% of the families had 1 child and 5% of the families had more than 3 children. Parents were relatively highly educated, as 57% had obtained a college or university degree.

We contacted five elementary schools, four of which were willing to participate in the study. At the beginning of the school year each child received a sealed envelope containing questionnaires for their parents. Parents were asked to keep this target child in mind when filling out the questionnaires and to return the questionnaire in a sealed envelope via their child. At the end of the first semester parents were asked to participate again, immediately after they left the parent-teacher conference which took place on a school night. At the parent-teacher conference parents were informed about their child's exam scores as well as about the mean and median scores of the class. They also talked with the teacher about the general functioning and progress of their child. Ninety-one percent of the children had only one parent (i.e., either mother or father) participating in the study because often only one parent attended the parent-teacher conference. For the cases in which both parents attended, we chose to select the father to participate in the study so as to arrive at a balanced distribution of parental gender. At both waves it was emphasized that participation was voluntary and that confidentiality was guaranteed.

Measures

As in Study 1, all items were rated on a 5-point scale, and scale scores were computed as the mean of the items. At Time 1 parents filled out the same questionnaires as in Study 1 tapping into their child-invested contingent self-esteem, $\alpha = .90$, their perceived social pressure to be an achievement-promoting parent, $\alpha = .96$, their controlled causality orientation,

α = .73, and autonomy causality orientation, α = .75. However, in contrast to Study 1 parents (rather than their children) provided information about their use of achievement-oriented psychological control, α = .67. At Time 2, immediately after they left the parent-teacher conference, parents reported about their child-invested contingent self-esteem, their intention to use achievement-oriented psychological control, and their perception of their child's academic success. More information about these Time 2 measures is provided below.

Child-invested contingent self-esteem at Time 2. To measure parental child-invested contingent self-esteem at Time 2, we asked parents to rate the extent their self-esteem was invested in their child's exam results received at the parent-teacher conference. To keep this questionnaire as short as possible, we selected 6 relevant items from the broader child-invested contingent self-esteem scale and slightly adjusted the formulation of these items (e.g., "My child's exam results make me feel good about myself."). Cronbach's alpha was .70.

Intention to use achievement-oriented psychological control at Time 2. Parents rated their intention to use achievement-oriented psychological control when involved with their child's school work during the next semester. For brevity, we selected 4 items from the achievement-orientation psychological control scale and slightly changed the formulation of these items to assess parents' intention to use achievement-oriented psychological control (e.g., "I will more often tell my child he/she needs to be ashamed when s/he is insufficiently committed to his/her schoolwork."). Cronbach's alpha was .75.

Actual achievement. Teachers from all participating schools provided a list of exam results from the past examination period for Dutch (i.e., the children's mother tongue) and Mathematics, the two most important subjects. An aggregate measure for actual achievement was computed by standardizing the exam scores within classes (to control for differences in performance between classes) and taking the mean across the two subjects.

Parent perceived academic success at Time 2. Parents rated their perception of their child's success on three items (e.g., "To what extent do you consider the results of your child as a success?") on a 6-point Likert scale ranging from 1 (*totally disagree*) to 6 (*totally agree*). The mean score of these items was also standardized to the child's class. Cronbach's alpha was .77.

Results for Study 2

Preliminary Analyses

Table 2 provides the descriptive statistics and correlations of the study variables. Child-invested contingent self-esteem was positively associated with social pressure to be an achievement-promoting parent, the controlled orientation, and achievement-oriented psychological control at Time 1 and 2. As in Study 1, parental child-invested contingent self-esteem was unrelated to an autonomy causality orientation. Although an autonomy causality orientation yielded a small negative association with achievement-oriented psychological control at both times, these associations became non-significant when controlling for the variance shared with a controlled causality orientation in a multiple regression analysis, $\beta = -.09$, *ns* and $\beta = -.14$, *ns*, for Time 1 and 2, respectively. Therefore, we decided not to include the autonomy causality orientation in subsequent analyses.

Next, we conducted a multivariate analysis of covariance to explore whether background variables (i.e., child age, child gender, parental educational level, parental age, parental gender, family structure) were associated with the study variables. Parental educational level, Wilks' Lambda = .86, $F(8,145) = 2.94$, $p < .01$, and parental gender, Wilks' Lambda = .85, $F(8,145) = 3.18$, $p < .01$, yielded an overall significant association. Follow-up univariate tests indicated that with increasing level of education, parents reported more social pressure to be an achievement-promoting parent, $F(1, 152) = 6.48$, $p < .05$, more child-invested contingent self-esteem at Time 1, $F(1, 152) = 5.31$, $p < .05$, more achievement-oriented

Table 2

Descriptive Statistics, Internal Consistencies, and Correlations in Study 2

Variable	*M* (*SD*)	1	2	3	4	5	6	7	8	9
1. Social pressure to be an achievement-promoting parent Time 1	2.43 (0.73)	-								
2. Controlled orientation Time 1	2.55 (0.55)	.18**	-							
3. Autonomous orientation Time 1	4.10 (0.46)	.02	-.28**	-						
4. Child-invested contingent self-esteem Time 1	2.36 (0.69)	.57***	.27***	.00	-					
5. Child-invested contingent self-esteem Time 2	1.84 (0.55)	.35***	.39***	-.09	.52***	-				
6. Achievement-oriented psychological control Time 1	1.45 (0.45)	.28***	.18**	-.14*	.41***	.11	-			
7. Intended Achievement-oriented psychological control Time 2	1.58 (0.62)	.26***	.21**	-.19*	.30***	.31***	.41***	-		
8. Actual achievement	0.16 (0.94)	.02	.00	.04	.01	.07	-.12*	-.09	-	
9. Parent perceived academic success	0.01 (0.78)	-.05	.08	.19*	-.09	.10	-.24**	-.32***	.44***	-

*$p < .05$ **$p < .01$ ***$p < .001$.

psychological control at Time 1, $F(1, 152) = 8.34$, $p < .01$, and children displayed higher actual achievement, $F(1, 152) = 4.46$, $p < .05$. Follow-up univariate tests also indicated associations of parental gender with the controlled causality orientation, $F(1, 152) = 10.11$, $p < .01$, and intended achievement-oriented psychological control at Time 2, $F(1, 152) = 7.88$, $p < .01$, with mothers scoring lower on the controlled orientation, $M = 2.33$, $SE = 0.06$, and reporting less intention to use achievement-oriented psychological control, $M = 1.42$, $SE = 0.08$, relative to fathers, $M = 2.58$, $SE = 0.07$ and $M = 1.70$, $SE = 0.09$, respectively. We controlled for parental education and parental gender in the main analyses.

To assess whether attrition from Time 1 to Time 2 was random, we performed a logistic regression analysis testing whether sample attrition (dummy coded as dropout = 0, and retention = 1) was predicted by the background variables mentioned earlier (entered in Step 1) and all study variables at Time 1 together with children's actual school results (entered in Step 2). Model chi-square for Step 1 was not significant, $\chi^2(6) = 8.03$, *ns*, indicating that dropout was unrelated to the background variables. For Step 2, we found a significant chi-square, $\chi^2(5) = 26.85$, $p < .001$. Parents who participated at both times reported lower levels of controlled orientation, $M = 2.45$, $SD = 0.52$, lower levels of achievement-oriented psychological control, $M = 1.40$, $SD = 0.42$, and had better performing children, $M = 0.33$, $SD = 0.87$, than those who dropped out, $M = 2.68$, $SD = 0.57$; $M = 1.51$, $SD = 0.49$; $M = -0.14$, $SD = 0.98$, respectively. However, a direct comparison of the correlation matrices of the study variables at Time 1 and child's actual school results revealed no significant differences between parents who participated twice and parents who only participated at Time 1, $\chi^2(10) = 10.65$, $p < .39$. Hence, despite the mean-level difference in some of the study variables, the pattern of associations among the study variables was equivalent for longitudinal participants and dropouts.

Structural Equation Modeling

We again used SEM to examine relations between the presumed antecedents and outcomes of parental child-invested contingent self-esteem at Time 2. To model changes in controlling parenting and child-invested contingent self-esteem, we controlled for Time 1 baseline levels in both constructs. We also examined the role of the child's actual and parent perceived achievement. Finally, we controlled for parental education and gender by allowing paths from these background variables to all the relevant constructs in the model.

In a first step, we investigated the measurement model with 7 latent variables. The estimated measurement model had a good fit, SBS-$\chi^2(188) = 222.44$, $p < .05$, RMSEA = .02, SRMR = .05, CFI = .99. Factor loadings of the indicator variables on their respective latent factors were moderate to high, ranging from .55 to .97, and significant, *p*s < .001.

Next, the hypothesized structural model was estimated, SBS-$\chi^2(247) = 314.54$, $p < .01$, RMSEA = .03, SRMR = .05, CFI = .98. As shown in Figure 2, both parental child-invested contingent self-esteem and achievement-oriented psychological control displayed moderate stability. Replicating Study 1, the controlled orientation and social pressure were positively related to child-invested contingent self-esteem at Time 1. More importantly, the central path between child-invested contingent self-esteem at Time 2 and intended achievement-oriented psychological control at Time 2 was significant even when controlling for initial levels of both constructs, indicating that increases in parental child-invested contingent self-esteem were related to increases in psychologically controlling parenting. We also tested whether initial levels of child-invested contingent self-esteem at Time 1 were predictive of changes in achievement-oriented psychological control. This effect was not significant, $\beta = -.07$, *ns*.

In terms of the antecedents of changes in parental child-invested contingent self-esteem, only a controlled causality orientation (but not social pressure to be an achievement-oriented parent) was significantly related to

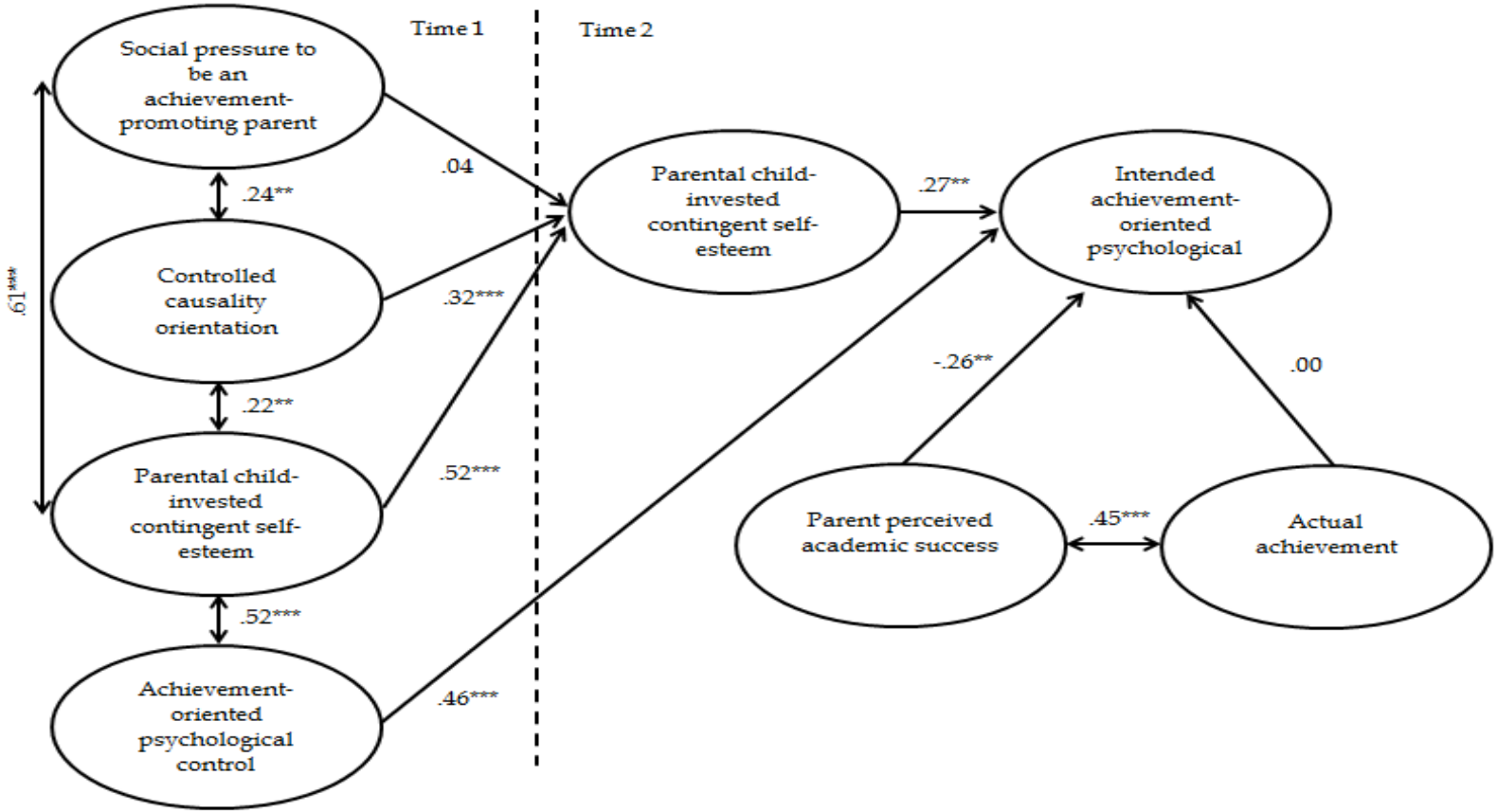

Figure 2. The structural model with standardized parameter estimates (Study 2). All associations shown are controlled for the background variables but for clarity of presentation these associations are not displayed. Also the direct paths from the controlled causality orientation and parental child-invested contingent self-esteem at Time 1 to intended achievement-oriented psychological control at Time 2 were not significant and therefore not displayed. AP = achievement-promoting . $^{**}p < .01$ $^{***}p < .001$.

increases in child-invested contingent self-esteem. We also investigated whether a controlled causality orientation at Time 1 would have a direct association with intended achievement-oriented psychological control at Time 2 beyond the indirect association through parental child-invested contingent self-esteem. Adding this path did not improve model fit, ΔSBS-$\chi^2(1) = 0.11$, *ns*, and the added path was not significant. As in Study 1, bootstrap analyses were conducted test the significance of the indirect effect. These analyses indicated that the indirect association[3] between controlled orientation at Time 1 and intended achievement-oriented psychological control at Time 2 through child-invested contingent self-esteem at Time 2 was significant, $\beta = .09$, 95% CI .01 to .16.

In terms of the effects of child achievement, we found that only parent-perceived achievement (and not actual child achievement) had a significant negative association with intended achievement-oriented psychological control at Time 2, indicating that parents who are dissatisfied with their child's achievement are inclined to increase their use of psychological control in the achievement domain. We also entered interactions between Time 2 parental child-invested contingent self-esteem and both actual and parent perceived child achievement in the model. However, both interactions were not significant, indicating that increases in

[3] We also examined a model in which, next to the direct links, interactions between parental child-invested contingent self-esteem Time 2 and (a) social pressure to be an achievement-promoting parent and (b) controlled causality orientation in the prediction of intended achievement-oriented psychological control Time 2 were investigated. The interaction term did not reach significance for the interaction between parental child-invested contingent self-esteem and social pressure, $t = 0.21$, *ns*, nor for the interaction between parental child-invested contingent self-esteem and controlled orientation, $t = -0.23$, *ns*. Taken together, across the two studies, it appears that the moderating role of child-invested contingent self-esteem is rather minimal; instead, more convincing evidence was obtained for it to play a mediating role in between pressuring factors and controlling parenting.

parental child-invested contingent self-esteem were related to increases in a controlling approach irrespective of the child's achievement.

Finally, we tested whether the structural relations in the model were moderated by parental gender and child gender. We first examined the equivalence of the measurement model by performing a multi-group CFA, thereby comparing the fit of the measurement model between (1) the mother and father data and (2) the daughter and son data. There was no difference in model fit between the constrained models and the unconstrained models, ΔSBS-$\chi^2(15) = 3.43$, *ns*, ΔCFI = .005, and ΔSBS-$\chi^2(15) = 13.11$, *ns*, ΔCFI = .002, for parent and child gender, respectively, suggesting factorial invariance. Then, we compared a constrained version of the structural models to the corresponding unconstrained versions. The unconstrained models did not have a better fit than the constrained models, ΔSBS-$\chi^2(12) = 13.52$, *ns*, ΔCFI = -.001, and ΔSBS-$\chi^2(12) = 6.53$, *ns*, ΔCFI = .003, for parent and child gender respectively, indicating that the models were structurally invariant across parent gender and child gender.

General Discussion

The present studies addressed antecedents and outcomes of parents' child-invested contingent self-esteem, thereby attempting to draw a rich picture of the dynamics involved in parental child-invested contingent self-esteem.

Child-invested Contingent Self-esteem and Psychologically Controlling Parenting

We found convincing evidence for the hypothesized link between parents' child-invested contingent self-esteem and a reliance on psychologically controlling strategies in the achievement domain. This finding is consistent with previous research (e.g., Ng et al., 2014) and with Grolnick and Apostoleris's (2002) argument that pressure stemming from parents' own functioning may make parents more likely to use pressuring

tactics. The use of psychologically controlling parenting strategies might be perceived by parents high on child-invested contingent self-esteem as a cost-efficient short-cut to achieve their desired goal, that is having a successful child and, in doing so, boosting their own self-worth. The present studies further indicated that the association between parental child-invested contingent self-esteem and pressuring parenting was robust and generalizable. First, the association emerged using both child reports (Study 1) and parental reports (Study 2) of parenting. Second, although parents with child-invested contingent self-esteem reported lower self-esteem, the contingent nature of their self-esteem, rather than its level, carries the association with psychologically controlling strategies. The association between child-invested contingent self-esteem and achievement-oriented psychological control was obtained in samples of both elementary and secondary school children, suggesting that the relation can be generalized across different age groups. This association was also invariant across parental and child gender. Consistent with previous research (Soenens et al., 2010), we found in Study 2 that fathers scored higher than mothers on achievement-oriented psychological control. In spite of this mean-level difference, associations with parental child-invested contingent self-esteem were equivalent across parental gender and child gender.

This study also built on previous work by including a longitudinal examination of parental child-invested contingent self-esteem in a naturalistic context. Parents' child-invested contingent self-esteem covaried with increases in parents' intention to use controlling practices after having been provided with feedback concerning the child's achievement. Regardless of how well children had actually performed on the exams or how successful they were according to the parents. At first sight our findings seem inconsistent with Ng et al. (2014), who did not find a longitudinal effect of parental child-invested contingent self-esteem. However, Ng et al. (2014) only examined whether initial levels of child-invested contingent self-esteem predicted increases in psychologically controlling parenting. Here, we were

also unable to find such an effect. However, we found that increases in child-invested contingent self-esteem developed in tandem with increases in achievement-oriented psychological control, an effect that was not explored by Ng et al. (2014).

The design of Study 2 also provided the opportunity to examine the interplay between child achievement and parental child-invested contingent self-esteem. We found that parents high on child-invested contingent self-esteem engaged in achievement-oriented psychological control irrespective of whether the child was objectively performing well or was perceived by parents as performing well. The use of achievement-oriented psychological control irrespective of the child's achievement may signal to children that parents have little confidence in their ability to do well. A more benign interpretation of this finding would be that parents high on child-invested contingent self-esteem stay involved in their children's schooling, even when the child performs poorly. However, this type of involvement is unlikely to support children's competence and motivation. In contrast, given the pressuring and intrusive nature of psychological control, psychologically controlling parenting likely undermines children's motivation and achievement (Katz, Kaplan, & Buzukashvily, 2011; Pomerantz, Moorman, & Litwack, 2007). Notably, parent-perceived academic success, rather than the child's actual achievement, was related to parents' increased intention to rely on psychologically controlling practices. This finding implies that parents only increase their psychologically controlling practices to the extent that they perceive the child's exam scores as a failure. More research is needed to explore the origins of parent-perceived academic success and failure in greater detail as such insights might be important to understand why some parents are relatively more controlling.

Antecedents of Child-invested Contingent Self-esteem

Given the detrimental parental style associated with child-invested contingent self-esteem, it is important to address the origins of this parental

orientation. We examined parents' own controlled functioning (i.e., pressure from within) and the social pressure they experience to be an achievement-promoting parent (i.e., contextual pressure). As expected, parents with a controlled orientation more strongly invest their self-esteem in the achievements of their child. The controlled orientation was even predictive of increases in parental child-invested contingent self-esteem across time. Whereas it has already been shown that a controlled orientation is related to people's own contingent self-esteem (e.g., Hodgins et al., 2007), the present research suggests that control-oriented people also tend to hinge their self-esteem on the achievement of others. Unexpectedly, the autonomous orientation was unrelated to parental child-invested contingent self-esteem and to achievement-oriented psychologically controlling parenting (at least when controlling for the variance shared with a controlled causality orientation). These findings, therefore, suggest that an autonomous orientation does not buffer against the development of child-invested contingent self-esteem in parents.

Apart from parental differences in the controlled causality orientation, perceived social pressure to be an achievement-promoting parent also predicted parental child-invested contingent self-esteem. The notion that parents increasingly feel pressured to rear successful and highly achieving children has been popular in the media (Grolnick & Seal, 2008), yet the present study is among the first to address this idea empirically. The pressure to be an achievement-promoting parent can be conveyed through diverse sources and will likely depend on the dominating ideology within the society (Kasser et al., 2007). Specifically, the present research suggests that, if parents feel that people in their environment hold them accountable for their children's success, they are more likely to pressure their child to perform well, presumably because they feel that their own self-esteem is contingent on the child's successes. However, social pressure was only related to parental child-invested contingent self-esteem concurrently and did not predict increases in child-invested contingent self-esteem. Possibly,

perceived social pressure from the environment is a relatively stable phenomenon that does not necessarily affect changes in child-invested contingent self-esteem.

Limitations and Future Directions

Although part of our data relied on multiple informants, our studies were limited by the reliance on mainly self-report measures. To avoid possible response bias in future research behavioral measures of parenting are needed. Also, more objective measures relevant to the concept of contextual pressure (e.g., family income and educational level) would be interesting because our studies yielded conflicting results regarding the role of educational level. Higher educational level was negatively related to achievement-oriented psychological control in Study 1, but it was positively related to achievement-oriented psychological control in Study 2. More research is needed to unravel the undoubtedly complex role of contextual factors in the dynamics of controlling parenting.

We also need to be careful about generalizing the obtained pattern of findings to the broader population as it may primarily apply to the more self-selective group of participating parents. This is especially the case with regard to the results for fathers in Study 2, who might have been more strongly involved in their child's life than fathers in the general population. The sample of Study 1 was also limited in this regard because it was collected by undergraduate students, a procedure that may have resulted in a relatively homogenous sample of families (Bornstein, Jager, & Putnick, 2013).

Another concern is that the design of our studies did not allow for a truly causal test of effects of parental child-invested contingent self-esteem. Future research may experimentally activate parents' child-invested contingent self-esteem to examine its causal effect on psychologically controlling parenting (see, e.g., Grolnick, Price, Beiswenger, & Sauck, 2007 for steps in this direction). Furthermore, the presumed antecedents of

parental child-invested contingent self-esteem (i.e., social pressure and the controlled orientation) could also be manipulated to evaluate their role as antecedents of child-invested contingent self-esteem.

Implications for Practice

Given that parental child-invested contingent self-esteem was related to a detrimental parenting style, we suggest that parents and children would benefit when parents are advised not to invest their self-esteem in the performance of their child. Training programs that allow parents to become more aware of pressures in their own functioning may serve as a buffer against the activation of child-invested contingent self-esteem. Given that parents' use of control and their self-worth are determined at least partly by the ideology prevailing in society (Bronfenbrenner, 1979), we advocate a shift away from values focused on performance. Downplaying an emphasis on competition and excellence at the societal level may help to reduce pressures on parents (Grolnick & Seal, 2008). Also, it would be better not to make the parents of children who fail to achieve particular standards feel accountable for their children's functioning, as if they failed to meet their parental responsibility. Moreover, we suggest that future research could try to identify factors that relate negatively to parents' child-invested contingent self-esteem as those factors may help to protect parents against the detrimental effects of social pressures and pressures in their own functioning. One such factor might be parents' trust in the child's natural and spontaneous growth tendency, an orientation that has been referred to as "trust in organismic development" (Landry et al., 2008).

Conclusion

The present research showed that parents' own controlled causality orientation and perceived social pressure to rear highly achieving children served as antecedents of their child-invested contingent self-esteem. When parents' self-worth is implicated in the performance of their child, parents

are more likely to make use of psychologically pressuring strategies in the achievement domain over time, even when controlling for actual and perceived child performance. Given the undermining effect of psychologically controlling parenting on children's achievement and well-being, there is a need for both scholars and practitioners to attend to the phenomenon of parental child-invested-contingent self-esteem and its developmental origins.

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Chapter 3

Social Pressure and Unfulfilled Dreams Among Chinese and Belgian Parents: Two Roads to Controlling Parenting via Child-Invested Contingent Self-Esteem[1]

Chinese parents have been found to use more psychological control towards their children than Western parents. The present study examined whether Chinese, relative to Belgian, parents' experiences of social pressure to be an achievement-promoting parent and their own unfulfilled dreams could account for this country-level difference in psychologically controlling parenting. In turn, effects of social pressure and unfulfilled dreams on parental psychological control were expected to be mediated by child-invested contingent self-esteem. In a cross-cultural sample consisting of 412 Chinese (209 mothers and 203 fathers) and 418 Belgian parents (209 mothers and 209 fathers) of 14-year old adolescents, we found social pressure and unfulfilled dreams to be positively linked with child-invested contingent self-esteem which, in turn, was related to psychologically controlling parenting. Moreover, the hypothesized country-difference in psychologically controlling parenting and child-invested contingent self-esteem was largely accounted for by parents' experiences of social pressure and unfulfilled dreams. The findings are discussed in light of the influence of the broader society on parents' self-worth and parenting practices.

[1] Wuyts, D., Chen, B., Vansteenkiste, M., & Soenens, B. (2014). Social pressure and unfulfilled dreams among Chinese and Belgian parents: Two roads to controlling parenting via child-invested contingent self-esteem *Manuscript submitted for publication.*

Introduction

Chinese parents have been found to engage in more psychologically controlling parenting behaviors, such as shaming and guilt-induction, compared to European and North-American parents (e.g., Cheung & Pomerantz, 2011). Such findings raise the question *why* Chinese parents have a higher tendency to engage in these controlling practices. A recent study by Ng, Pomerantz, and Deng (2014) indicated that Chinese parents' feelings of self-worth are implicated more strongly in their children's performance, which helped to account for their elevated use of psychological control. Yet, it remains unclear why Chinese parents' self-worth is interwoven more strongly with their children's successes and failures. The present study examined two potential explaining factors, that is, the elevated social pressure experienced by Chinese parents to make their children perform well and Chinese parents' greater likelihood of holding unfulfilled dreams.

Psychological Control and Child-invested Contingent Self-esteem

Parental psychological control refers to an intrusive and manipulative parenting style involving a conditionally approving attitude towards the child. Specifically, it is manifested in a host of parental techniques that intrude into the psychological world of the child such as guilt-induction, shaming, and love withdrawal (Barber, 1996). Several studies have indicated that the more parents are perceived as psychologically controlling, the more children suffer emotionally and academically, a finding that emerged in both Western and Asian societies (e.g., Wang, Pomerantz, & Chen, 2007).

One critical life domain in which parents exert psychological control is children's performance and achievement. Achievement-oriented psychological control refers to engagement in intrusive parenting tactics to make the child comply with parental standards for achievement, mostly in the academic domain (Soenens, Vansteenkiste, & Luyten, 2010). This

manifestation of psychological control is especially prevalent among Chinese parents. Indeed, Cheung and Pomerantz (2011) reported that the more Chinese parents were involved in their children's learning, the more psychological control they exerted. This style of involvement stood in contrast to American parents' involvement, which was relatively more autonomy-supportive. Furthermore, research has shown that Chinese adolescents who perceived psychological control in the achievement domain displayed poorer time management and more distraction (Vansteenkiste, Zhou, Lens, & Soenens, 2005) and obtained lower grades (Wang, Chan, & Lin, 2012). Given the undesirable outcomes associated with psychological control and its higher prevalence among Chinese parents (e.g., Cheung & Pomerantz, 2011), it is of importance to investigate its antecedents.

In an initial study on this topic, Ng and colleagues (2014) demonstrated that Chinese parents' elevated levels of general psychological control were rooted in parents' feelings of self-worth being more contingent on their children's performance. Parental child-invested contingent self-esteem refers to parents' inclination to measure their own self-worth in terms of the successes and failures of their offspring (Wuyts, Vansteenkiste, Soenens, & Assor, in press). When parents' self-worth is implicated in their children's achievements, they more easily conceive the use of psychological pressuring strategies as a logical short-cut to achieve their desired goal of having a successful child. Parents may rely on these controlling strategies even when their children are doing well, presumably because the threat of future failure keeps the pressure in check. Consistent with this reasoning, Wuyts et al. (in press) found that the positive association between parental child-invested contingent self-esteem and achievement-oriented psychological control did not depend on children's actual school success nor parents' perceived school success. What remains unclear to date, however, is which factors lead parents to invest their self-worth in their children's achievements and whether these factors are more prevalent in the Chinese, relative to Western, cultural context.

Social Pressure on Chinese Parents

Parents' child-invested contingent self-esteem is likely intertwined with pressures in the broader society. That is, to the extent that parents experience that society has pressuring demands for them, they may transmit this perceived social pressure to their offspring via the activation of child-invested contingent self-esteem (Wuyts et al., in press). The aim of the present study was to examine whether these social pressures differ between China and Belgium, two societies marked by a fairly different socio-cultural climate. There are several arguments for why social pressure would be elevated among Chinese parents.

First, within traditional Chinese society, compared to the European context, more emphasis is placed on children's education and parents' responsibility for their offspring's education (Lee, 2000). Chinese parents have been found to strongly emphasize the importance of achieving academic excellence to their adolescent children (Fong, 2007). Such findings are consistent with Hofstede's (2001) classification system, which portrays China as a masculine society characterized by an emphasis on competition, achievement and success. In contrast, Belgium, a typical Western-European country, has a more moderate score on this dimension. In addition, within traditional Confucian culture, the indigenous Chinese concept of 'face' refers to the importance attached to social recognition (Goffman, 1967). Previous research shows that Chinese parents 'have most face' when their children are successful in their academic performance and careers (Hwang, 2006).

Second, due to the Chinese one-child policy Chinese parents invest their full attention, money, and efforts to only one child (Fong, 2007). In contrast, in Belgian families 85% of the children grew up with at least one sibling (Kind&Gezin, 2012). Because most Chinese parents have only one child, they only have one chance to 'prove' that they are able to rear a successful child. Indeed, Chinese parents are willing to invest considerably in their child's successful development, as on average 66% of the family

income reserved for the child is spent on after-school education (Dandy & Nettelbeck, 2002).

Third, due to the transition from state socialism to an open market economy over the last decades (Li, Li, & Zhang, 2000), the Chinese educational system and job market have become increasingly competitive. Outperforming peers is a necessary condition to enter more qualified and more prestigious colleges and to obtain well-paid jobs (Fong, 2004). This recent shift has strengthened the already prevailing societal ideas about the importance of academic performance and has elicited anxiety and worry among Chinese parents regarding the capacity of their single child to meet the heightened demands for academic success (Anagnost, 2008).

Given the societal emphasis on academic success, the one-child policy, and the shift towards a more competitive open market economy, we expect Chinese, relative to Belgian, parents to experience more social pressure regarding the academic performance of their children. Given that parents are embedded in a network of social relations (Bronfenbrenner, 1979), these social pressures on parents may be conveyed through different channels, including the media, school directories, other parents, grandparents, and one's partner (Sperber, 1996). In a recent study, Wuyts and colleagues (in press) developed a new questionnaire tapping into these pressures. Among Belgian parents social pressure to be an achievement-promoting parent was found to relate to more child-invested contingent self-esteem and subsequent psychologically controlling parenting. The present research builds on this research by examining whether between-country differences in child-invested contingent self-esteem and controlling parenting can be accounted for by differences in social pressure experienced by Chinese and Belgian parents.

Unfulfilled Dreams Among Chinese Parents

Apart from examining the role of social pressure to be an achievement-promoting parent, we also investigate whether parents'

unfulfilled dreams would serve as antecedent of parents' child-invested contingent self-esteem and their reliance on psychologically controlling practices. Unfulfilled dreams refer to people's lost ambitions and the choices they regret in their life (Beike, Markman, & Karadogan, 2008). Both seminal writers, such as Freud and Jung, and contemporary parenting experts (Miller, 1997) suggest that parents cope with their unfulfilled ambitions by projecting their unrealized dreams onto their children. Consistent with this reasoning, Brummelman and colleagues (2013) recently showed that when parents are experimentally exposed to their own unfulfilled ambitions, they reported an increased desire for their child to redeem their unfulfilled dreams, at least when they thought of their child as a part of themselves. However, this study did not examine whether parents' desire for their child to realize their unfulfilled dreams would relate to their actual parenting practices, an issue we examine in the present study.

Further, we speculate that the Belgian parents in the current study (who can be considered members of Generation X, that is the cohort of people born between 1960 and 1980) grew up in liberal and economically advanced circumstances, while the same cohort of Chinese parents (i.e. the generation of people born in the 1970s, after the Cultural Revolution) grew up in a financially more constrained environment and under the restrictions of the socio-political situation of their childhood. Therefore, Chinese parents may have been less able to fulfill their dreams in life. As a result, they may more easily see their children's achievement as a compensation for their unfulfilled dreams and report increased self-esteem if their child achieves their unrealized ambitions. Unfortunately, because a stronger projection of parental unfulfilled dreams onto their offspring may elicit child-invested contingent self-esteem, it may lead parents to use more psychologically controlling strategies.

The Present Study

This study aimed to extend the limited body of work on parental child-invested contingent self-esteem by examining its antecedents in greater detail and, in doing so, adopting a cross-national perspective. We examined the following four hypotheses. First, we tested an integrated model among Chinese and Belgian parents in which parents' perceived social pressure to be an achievement-promoting parent and their unfulfilled dreams would relate positively to child-invested contingent self-esteem which, in turn, would relate positively to achievement-oriented psychological control (Hypothesis 1). Second, we expected our integrated model to be largely similar in the two countries. That is, when Belgian or Chinese parents experience more social pressure to be an achievement-promoting parent and report having more unfulfilled dreams, child-invested contingent self-esteem is more likely to be elevated, which in turn would be linked with higher psychological control (Hypothesis 2). Third, we predicted significant mean-level differences in the main study variables, such that Chinese, relative to Belgian, parents would report more social pressure, unfulfilled dreams, child-invested contingent self-esteem, and psychologically controlling parenting (Hypothesis 3). Finally, to understand the hypothesized between-country differences in child-invested contingent self-esteem and psychologically controlling parenting, we tested two specific process models derived from the integrated model. First, we hypothesized that child-invested contingent self-esteem would play a mediating role in the relation between country and achievement-oriented psychological control (Hypothesis 4a). Second, we hypothesized that social pressure and unfulfilled dreams would play a mediating role in the relation between country and child-invested contingent self-esteem (Hypothesis 4b). Before testing the structural relations in our model and inspecting mean-level differences between China and Belgium, we first examined the measurement equivalence (metric and scalar invariance) of our four constructs.

Method

Participants and Procedure

We recruited a sample of Chinese and Belgian parents. The Chinese sample consisted of 209 mothers and 203 fathers. On average, mothers and fathers were, respectively, 38.15 (*SD* = 2.66; range 34-50) and 40.95 years old (*SD* = 4.50; range 34-61). Fifty nine percent of both mothers and fathers obtained a college or university degree. The majority of the parents (i.e., 92%) were married or living together with the other biological parent of the child. The mean age of their child was 13.71 years (*SD* = 0.48; range 13-15 years) and 56% of the children was female.

The Chinese sample of parents was recruited through contacting a high school in an urban Chinese area (Shanghai). Each adolescent of the eight grade received an envelope, containing questionnaires for their parents and a detailed invitation letter. Of all the parents who were asked to participate, 86% accepted the invitation. The first page of the instruction emphasized that participation was voluntary and that anonymity was guaranteed. Parents were asked to keep the target adolescent (from whom they received the questionnaire) in mind when filling out the questionnaire and to return it with their child in a sealed envelope.

Participants in the Belgian sample were 209 mothers and 209 fathers. Mothers and fathers were, respectively, 44.78 (*SD* = 4.11; range 32-63) and 46.03 (*SD* = 4.07; range 34-57) years old on average. Both Belgian mothers and fathers were highly educated with 75% and 68% having obtained a college or university degree, respectively. Furthermore, the majority of the Belgian families were intact, with 91% of the mothers and 92% of the fathers reporting to be married or living together with the other biological parent of the child. On average, 2.6 children (*SD* = 1.01, range = 1- 9) were living in the Belgian families, with up to 91% families consist of more than one child. The mean age of the target child was 13.85 years (*SD* = 0.72; range 13-15 years) and 60% of the target children was female.

Belgian parents were recruited as part of an undergraduate course in developmental psychology. Students were asked to invite two families (who were not relatives or close friends of the student), one with a male adolescent and one with a female adolescent in the age range of 13-15 years, to participate in this study. Students were trained and instructed to approach potentially interested families. They briefly explained the purpose of the study, asked written informed consent when parents decided to participate, and provided the questionnaires with detailed information and instructions. Parents were asked to keep the target adolescent in mind when they filled out the questionnaires. The first page of the instruction emphasized that participation was voluntary and data would be treated confidentially. After filling out the questionnaires, parents put their questionnaires in separate, sealed envelopes and returned these envelopes to the student who, in turn, returned them to the researchers.

Chi-square analysis indicated that both samples are comparable in terms of child gender, $\chi^2(1) = .52$; *ns*, child age, $F(1, 284) = 2.39$; *ns*, fathers' educational level, $\chi^2(3) = 4.81$; *ns*, and both mother's and father's marital status, $\chi^2(1) = 0.02$; *ns*, $\chi^2(1) = 0.79$; *ns*, respectively. However, mothers' educational level differed among both countries, $\chi^2(3) = 15.93$; $p < .01$, with more Belgian (i.e., 75%) than Chinese (i.e., 59%) mothers having followed higher education. In addition, both Chinese mothers, $F(1, 345) = 285.79$, $p < .001$, and Chinese fathers, $F(1, 320) = 108.09$, $p < .001$, were younger than their Belgian counterparts, which is likely due to the Chinese one-child policy.

Measures

All scales were originally developed in English (i.e., child-invested contingent self-esteem) or Dutch (i.e., achievement-oriented psychological control, social pressure to be an achievement-promoting parent, unfulfilled dreams).The translation of the questionnaires followed the guidelines of the International Test Commission (Van de Vijver & Hambleton, 1996). First, a

Chinese researcher fluent in English translated them into Chinese. Second, the back translations were done by an English-Chinese language teacher with expertise in both languages. Then the original and back translated versions of the items were compared to inspect their equivalence. Non-equivalent translations were discussed by the two translators to arrive at a consensual agreement on the final wording. All items were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Descriptive statistics and internal consistencies of each measure can be found in Table 1.

Child-invested contingent self-esteem. Parents filled out the 'Child-invested Contingent Self-Esteem Scale' (Assor, Roth, Israeli-Halevi, Freed, & Deci, 2007; Wuyts et al., in press). This scale contains items assessing the extent to which parents' self-esteem is contingent on children's achievement in general (3 items; e.g., "How I feel about myself is often related to my child's achievements.") as well as on the child's successes (6 items; e.g., "When my child succeeds I feel good about myself."), and on the child's failures (6 items; e.g., "My child's failure is also my failure.").

Social pressure to be an achievement-promoting parent. Parents' perceived social pressure to be an achievement-promoting parent was measured using a 30-item scale tapping into five different sources of perceived social pressure (i.e., grandparents, partner, other parents, the school, and the media; Wuyts et al., in press). Parents rated the extent to which each of these sources made them feel accountable for their children's achievements. The same set of six items was used for each of these five sources, with three of these six items being oriented towards the attainment of a positive outcome (e.g., "My partner makes me feel responsible for the performance of my child.") and three items being oriented towards the avoidance of a negative outcome (e.g., "The school expects me to make sure my child doesn't fail.").

Unfulfilled dreams. Six items were developed to tap into unfulfilled dreams. Parents rated the extent to which they regretted not having realized

certain dreams, goals and aspirations when they were younger (e.g., “I regret that I failed to realize important dreams during my childhood.”).

Achievement-oriented psychological control. Achievement-oriented psychological control was assessed with the corresponding 9-item scale from the Dependency-Oriented and Achievement-Oriented Psychological Control Scale, a well-validated measure taping into two domain-specific manifestations of psychologically controlling parenting (Soenens et al., 2010, e.g., "I only show my love to my child if he/she gets good grades.").

Results

Preliminary Analyses

Effects of background variables. We first conducted a multivariate analysis of covariance (MANCOVA) on the maternal and paternal data separately. All study variables were included as dependent outcomes, with country of residence, adolescent gender, and family structure being defined as fixed factors and with adolescent age, parental age, parental education level, and number of children in the family being inserted as covariates.

As for the maternal data, family structure (Wilks’ Lambda = .94, $F(4, 245) = 4.05$, $p < .01$), maternal education level (Wilks’ Lambda = .90, $F(4, 245) = 7.03$, $p < .001$), and country of residence (Wilks’ Lambda = .80, $F(4, 245) = 15.61$, $p < .001$) yielded a multivariate significant association. Follow-up tests indicated univariate associations between family structure and social pressure, $F(1, 248) = 10.78$, $p < .01$, with mothers of non-intact families reporting more social pressure ($M = 3.00$, $SD = 0.80$) than mothers from intact families ($M = 2.46$, $SD = 0.84$). Maternal educational level yielded a univariate association with unfulfilled dreams , $F(1, 248) = 16.51$, $p < .001$, indicating that with increasing level of education mothers reported less unfulfilled dreams, $B = -.37$, $p < .001$. The effects of country of residence will be discussed in greater detail in the main analysis.

As for the paternal data, paternal education level yielded a multivariate significant association, Wilks' Lambda = .92, $F(4, 233) = 4.91$, $p < .01$. Similar to the maternal data, a univariate association between paternal education level and unfulfilled dreams was obtained, $F(1, 236) = 8.09$, $p < .01$, with more highly educated fathers reporting less unfulfilled dreams, $B = -.22$, $p < .01$. Country of residence also showed a multivariate effect, Wilks' Lambda = .74, $F(4, 233) = 20.94$, $p < .001$ that will be discussed later on in the main analysis. Given the limited number of associations with background variables and given the fact that none of the background characteristics yielded a significant association with the dependent variables (i.e., child-invested contingent self-esteem, controlling parenting), we did not control for these background variables in our main analyses.

Correlations. Correlations between the study variables can be found in Table 1. In both countries, child-invested contingent self-esteem was significantly correlated with mothers' and fathers' use of achievement-oriented psychological control. Further, social pressure to be an achievement-promoting parent and their unfulfilled dreams positively correlated with child-invested contingent self-esteem in both Chinese and Belgian mothers and fathers.

Measurement equivalence. We examined the measurement equivalence (metric and scalar invariance) of our four constructs across country of residence by performing multi-group CFA's, thereby using the individual items of the scales as indicators of latent constructs. Specifically, we compared single-order CFA's for three out of four measures. Only for social pressure to be an achievement-promoting parent, we used a second-order CFA model with the five subscales, each represented by six items, being modelled as higher order factors. Following recommendations by Dimitrov (2010), we examined metric invariance by testing whether the item loadings were equivalent across groups. When metric invariance is reached (i.e., equal factor loadings across groups are obtained), it is legitimate to

Table 1

Internal Consistencies and Correlations Between Child-invested Contingent Self-esteem and his Antecedents and Outcomes Among Belgian (Top Half) and Chinese (Bottom Half) Parents

Belgian sample	1	2	3	4
α	.95	.89	.89	.79
1. Social pressure to be an achievement-promoting parent	-	.28***	.46***	.37***
2. Unfulfilled dreams	.22**	-	.34***	.27***
3. Child-invested contingent self-esteem	.40***	.21**	-	.47***
4. Achievement-oriented psychological control	.18**	.12	.53***	
α	.95	.92	.88	.75

Chinese sample	1	2	3	4
α	.95	.87	.88	.83
1. Social pressure to be an achievement-promoting parent	-	.40***	.63***	.31***
2. Unfulfilled dreams	.36***	-	.44***	.23**
3. Child-invested contingent self-esteem	.48***	.32***	-	.44***
4. Achievement-oriented psychological control	.33***	.15*	.54***	-
α	.96	.87	.86	.79

Note. Internal consistencies and correlations between the maternal variables are shown below the diagonal. Internal consistencies and correlations between the paternal variables are shown above the diagonal. *$p < .05$ **$p < .01$ ***$p < .001$

compare the relations between latent variables across groups. Next, we tested for scalar invariance by comparing the metric invariance model with a model where the intercepts were set equal as well. Scalar invariance (i.e., equal item intercepts across groups) is required to compare means across groups. The invariance of the constrained, relative to unconstrained, model was evaluated based on three difference-in-fit indices. Because a non-significant difference in Chi-square (ΔSBS-χ^2) is a less realistic and elusive criterion, especially when sample size is large, we took into account two other statistics (Cheung & Rensvold, 2002), that is, the difference in CFI (ΔCFI), which should be around .01 and the difference in NNFI (ΔNNFI) , which should be around.02. We assumed equivalence when two of the three criteria were met (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000). In Table 2, detailed results with respect to the metric and scalar invariance of our four measures are presented.

As can be seen in the top half of Table 2, metric invariance was achieved for all maternal and paternal measures except for paternal child-invested contingent self-esteem, for which we needed to free one out of 15 (i.e., 7%) loadings, and for maternal achievement-oriented psychological control, for which we needed to free three out of nine (i.e., 33%) loadings to achieve invariance (ΔSBS-$\chi^2(13) = 32.45$; $p < .01$, ΔCFI = .011, ΔNNFI = .005; ΔSBS-$\chi^2(5) = 12.22$; $p < .05$, ΔCFI = .014, ΔNNFI = .008, respectively). The measure of social pressure to be an achievement-promoting parent also displayed second order metric invariance (ΔSBS-$\chi^2(4) = 15.61$; $p < .01$, ΔCFI = .001, ΔNNFI = .001; ΔSBS-$\chi^2(4) = 3.76$; *ns*, ΔCFI = .002, ΔNNFI = .001, for maternal and paternal ratings respectively).

As can be seen in the bottom half of Table 2, we obtained scalar invariance for unfulfilled dreams and social pressure. For child-invested contingent self-esteem, we needed to free four of the 15 intercepts for maternal ratings (i.e., 27%) and five for paternal ratings (i.e., 33%) to achieve invariance (ΔSBS-$\chi^2(10) = 31.01$; $p < .001$, ΔCFI = .013, ΔNNFI = .000; ΔSBS-$\chi^2(9) = 33.42$; $p < .001$, ΔCFI = .013, ΔNNFI = .003,

Table 2

Results of Measurement Equivalence as a Function of Country of Residence Among Belgian and Chinese Mothers and Fathers

	Social pressure to be an achievement-promoting parent		Unfulfilled dreams		Child-invested contingent self-esteem		Achievement-oriented psychological control	
Metric invariance	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
ΔSBS- χ^2(df)	(25) = 35.13	(25) = 36.40	(5) = 5.13	(5) = 0.92	(14) = 34.62**	(14) = 50.13***	(8) = 40.74***	(8) = 18.44
ΔCFI	0.002	0.002	0.003	0.001	0.013	0.019	0.070	0.015
ΔNNFI	0.002	0.001	0.010	0.013	0.005	0.002	0.068	0.001
Scalar invariance	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
ΔSBS- χ^2(df)	(24) = 87.36***	(24) = 41.24*	(5) = 16.41**	(5) = 13.57*	(14) = 114.94***	(14) = 138.00***	(8) = 106.93***	(8) = 101.35***
ΔCFI	0.008	0.002	0.012	0.011	0.058	0.063	0.194	0.134
ΔNNFI	0.005	0.000	0.003	0.005	0.040	0.047	0.195	0.123

*$p < .05$ **$p < .01$ ***$p < .001$

respectively). Also, for achievement-oriented psychological control we needed to free some intercepts to obtain invariance. Specifically, for maternal ratings two (i.e., 22%) and for paternal ratings four (i.e., 44%) of the nine intercepts were set free to obtain scalar invariance (ΔSBS-$\chi^2(6) = 13.30$; $p < .05$, ΔCFI = .014, ΔNNFI = .006; ΔSBS-$\chi^2(4) = 3.58$; *ns*, ΔCFI = .001, ΔNNFI = .006, respectively). The measure of social pressure to be an achievement-promoting parent also displayed second order metric invariance for maternal ratings (ΔSBS-$\chi^2(1) = 404.85$; $p < .001$, ΔCFI = .016, ΔNNFI = .016 for second order scalar invariance), but not for paternal ratings (ΔSBS-$\chi^2(1) = 348.83$; $p < .001$, ΔCFI = .022, ΔNNFI = .022).

To conclude, in both maternal and paternal data we found satisfying metric invariance, which allows us to directly compare the relations between latent variables across groups. The one exception was the scale for maternal achievement-oriented psychological control which reached satisfying metric invariance for only 67% of the items. In spite of this result, we decided to continue using the full scale in the maternal data given that, first, the cross-cultural validity of this measure was proven in another study involving Korean and Belgian adolescents (Soenens, Park, Vansteenkiste, & Mouratidis, 2012) and, second, no equivalence problems with the measure emerged in the paternal data. Full scalar invariance was obtained for unfulfilled dreams and social pressure to be an achievement-promoting parent in both the maternal and paternal data (although the paternal scale of social pressure did not display full second-order scalar invariance) data. For child-invested contingent self-esteem and achievement-oriented psychological control, however, we obtained only partial scalar invariance. Therefore, we examined whether the mean-level comparisons yielded different findings when using the full scales compared to when using scales from which the non-equivalent items were removed.

Primary Analyses.

Hypothesis 1 and 2: Structural equivalence of the integrated model. In order to test the hypothesized integrated model (Hypothesis 1) and to check whether the structural relations in our hypothesized model were equivalent across country (Hypothesis 2), we performed Structural Equation Modeling (SEM) analyses using MPlus 6 software with robust maximum likelihood estimation (Muthén & Muthén, 2010). Latent variables were constructed through parceling, with each latent variable being represented by three or five parcels by combining a random selection of their respective scale items. Parceling has the advantage of minimizing the effects of bias at the item level and helps to avoid overall model complexity (Little, Cunningham, Shahar, & Widaman, 2002). For each model we inspected the comparative fit index (CFI), which should have values of .95 or higher, and the root-mean-square residual (RMSEA), which should be equal to or lower than.06 (Hu & Bentler, 1999).

We first tested a constrained model in which the path coefficients were set to be equal across both subsamples. Second, we tested an unconstrained model in which the path coefficients were allowed to vary. The constrained model yielded an acceptable fit, SBS-$\chi^2(164) = 282.99$; $p < .001$, RMSEA = .06, CFI = .95, NNFI = .95 and SBS-$\chi^2(164) = 260.06$; $p < .001$, RMSEA = .05, CFI = .96, NNFI = .96 for the maternal and paternal model, respectively. Importantly, the unconstrained model did not yield a significantly better fit than the constrained model, ΔSBS-$\chi^2(4) = 8.56$; *ns*, ΔCFI = .001, ΔNNFI = .000 for the maternal ratings and ΔSBS-$\chi^2(4) = 8.13$; *ns*, ΔCFI = .002, ΔNNFI = .001 for the paternal ratings, indicating that the model was structurally invariant for both mothers and fathers.

The constrained model is depicted graphically in Figure 1. All estimated paths were significant in both the maternal and paternal model. Next, we investigated whether the two antecedents (i.e., social pressure and unfulfilled dreams) yielded a direct and unique association with achievement-oriented psychological control above the indirect association

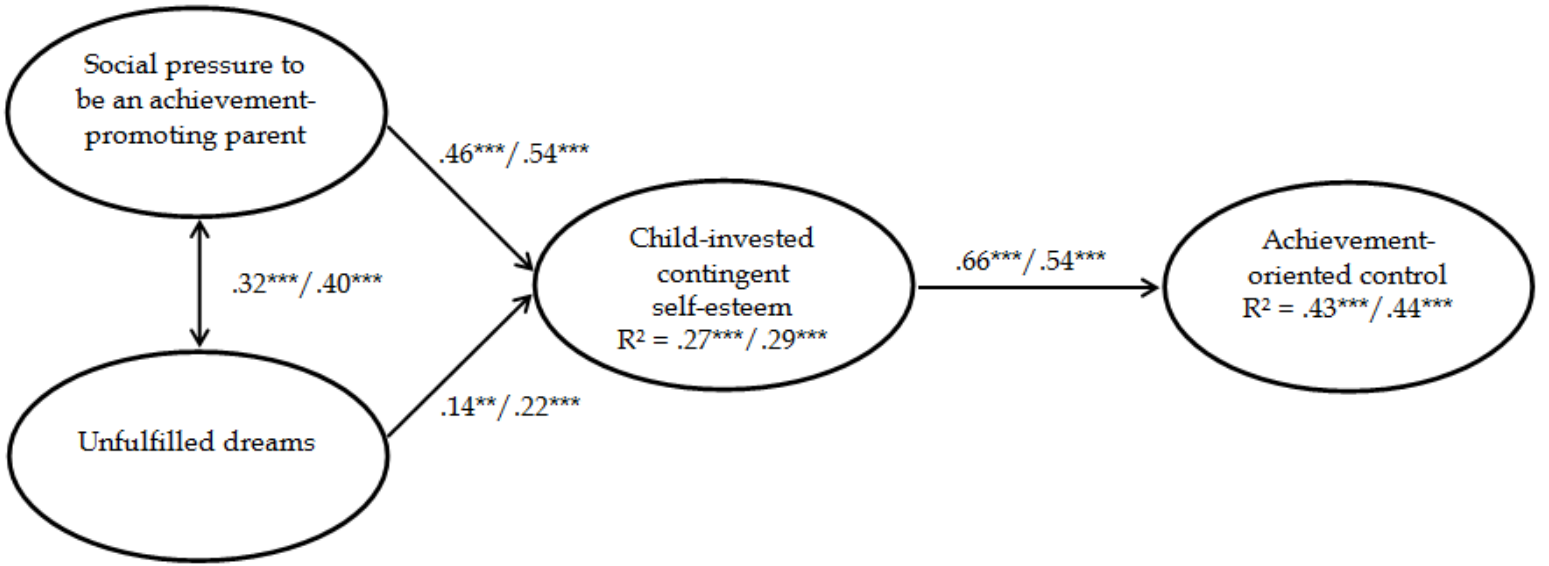

Figure 1. Constrained multi-group structural model with standardized parameter estimates. The first coefficient shown is for maternal ratings and the second coefficient is for paternal ratings. ** $p < .01$. *** $p < .001$.

through child-invested contingent self-esteem. Adding these paths did not improve model fit, ΔSBS-$\chi^2(2) = 0.59$; *ns*, ΔCFI = .001, ΔNNFI = .002 and ΔSBS-$\chi^2(2) = 3.50$; *ns*, ΔCFI = .001, ΔNNFI = .000 for maternal and paternal ratings, respectively, and the added paths were not significant. Next, bootstrap analyses were conducted with 5000 samples to test the significance of the indirect effect. This test indicated that the indirect associations[2] between social pressure and achievement-oriented psychological control through child-invested contingent self-esteem were significant ($\beta = .30$, $p < .001$, CI = .22 - .38 and $\beta = .29$, $p < .001$, CI = .21 - .38 for maternal and paternal ratings, respectively). Similarly, the indirect associations between unfulfilled dreams and achievement-oriented psychological control through child-invested contingent self-esteem were significant ($\beta = .09$, $p = .01$, CI = .02 - .14 and $\beta = .12$, $p < .001$, CI = .06 - .19 for maternal and paternal ratings, respectively). Thus, in both the Belgian and Chinese sample, social pressure and unfulfilled dreams are positively linked with child-invest contingent self-esteem which, in turn, relates to higher achievement-oriented psychological control.

[2] We also examined a model in which, next to the direct links, interactions between parental child-invested contingent self-esteem and (a) social pressure to be an achievement-promoting parent and (b) parents' unfulfilled dreams in prediction of achievement-oriented psychological control were investigated. The interaction term did not reach significance for the interaction between parental child-invested contingent self-esteem and unfulfilled dreams, $t = -0.21$, *ns* and $t = -0.43$, *ns*, for maternal and paternal ratings, respectively. Yet, for the interaction with social pressure, in the maternal ratings a significant interaction with child-invested contingent self-esteem showed up, $t = 2.03$, $p < .05$, whereas this was not the case for the paternal ratings, $t = 0.32$, *ns*. It appears that the moderating role of child-invested contingent self-esteem is rather minimal; instead, more convincing evidence was obtained for it to play a mediating role in between pressuring factors and controlling parenting.

Hypothesis 3: Mean-level differences. To check whether there were mean-level differences between the two countries, we performed a multivariate analysis of variance (MANOVA). The effect of country was significant for both the maternal ratings, Wilks' Lambda = .54, $F(4, 406) = 85.57$, $p < .001$, $\eta^2 = .46$, and the paternal ratings, Wilks' Lambda = .60, $F(4, 392) = 64.92$, $p < .001$, $\eta^2 = .40$. Given that only partial equivalence was obtained for some measures, we reanalyzed the data, this time making use of the reduced scales (i.e., the scales from which the non-equivalent items were removed). No substantial drop in the effect size emerged when using the reduced scales instead of the original scales ($\Delta\eta^2 = 0.03$ and $\Delta\eta^2 = 0.02$, for maternal and paternal data respectively). Follow-up univariate analyses showed that both Chinese mothers and fathers scored higher on each of the study variables compared to their Belgian counterparts, as can be seen in Table 3. Specifically, Chinese parents reported higher levels of social pressure, unfulfilled dreams, child-invested contingent self-esteem, and achievement-oriented psychological control than their Belgian counterparts. This was also the case when using the reduced scales.

Hypothesis 4: Mediation analysis. Finally, we performed mediation analyses to test (a) whether the between-country difference in achievement-oriented psychological control can be explained by between-country differences in child-invested contingent self-esteem (Hypothesis 4a) and (b) whether the between-country difference in child-invested contingent self-esteem, in turn, can be explained by between-country differences in its hypothesized antecedents (Hypothesis 4b). We followed the guidelines provided by Holmbeck (1997) for testing mediation with SEM models. In a first step we examined the effect of the independent variable (i.e., country of residence) on the dependent variable (i.e., child-invested contingent self-esteem or achievement-oriented psychological control). The results of this first step are shown in the first column of Table 4. Then we estimated both a full mediation model (i.e., a model including only indirect associations between the independent and dependent variables through the mediator(s))

Table 3

F-statistics and Effect Sizes of Mean Level Differences in Measured Variables Between Belgian and Chinese Mothers and Fathers

	Belgium	China		
Mother report	*M* (*SD*)	*M* (*SD*)	*F*(1, 409)	η^2
Child-invested contingent self-esteem	2.39 (0.63)	3.32 (0.68)	203.48***	.33
Social pressure	2.28 (0.69)	3.25 (0.79)	176.48***	.30
Unfulfilled dreams	2.53 (1.06)	3.24 (0.95)	50.55***	.11
Achievement-oriented psychological control	1.50 (0.48)	2.45 (0.75)	233.21***	.36
Father report	*M* (*SD*)	*M* (*SD*)	*F*(1, 395)	η^2
Child-invested contingent self-esteem	2.52 (0.63)	3.27 (0.73)	119.73***	.23
Social pressure	2.35 (0.69)	3.41 (0.73)	220.99***	.36
Unfulfilled dreams	2.53 (0.97)	3.17 (0.98)	43.76***	.10
Achievement-oriented psychological control	1.77 (0.55)	2.52 (0.83)	114.15***	.22

***$p < .001$

Table 4

Child-invested Contingent Self-esteem as a Mediator Between Country of Residence and Achievement-oriented Psychological Control (Top Half) and Social Pressure and Unfulfilled Dreams as Mediators Between Country of Residence and Child-invested Contingent Self-esteem (Bottom Half)

	β		95% bias-corrected and accelerated bootstrap CI
	Step 1	Step 2	
Achievement-oriented psychological control			
Mother report			
Step 1: Country of residence	.67***	.31***	
Step 2: Child-invested contingent self-esteem		.61***	.29 - .43
Father report			
Step 1: Country of residence	.53***	.27***	
Step 2: Child-invested contingent self-esteem		.51***	.20 - .32
Child-invested contingent self-esteem			
Mother report			
Step 1: Country of residence	.60***	.30***	
Step 2: Social pressure		.46***	.19 - .33
Unfulfilled dreams		.12**	.01 - .08
Father report			
Step 1: Country of residence	.51***	.06	
Step 2: Social pressure		.60***	.29 - .47
Unfulfilled dreams		.21***	.03 - .11

** $p < .01$ *** $p < .001$

and a partial mediation model (i.e., a model including direct associations between the independent and dependent variables in addition to the indirect associations). Full mediation is shown when the partial mediation model does not provide a better fit than the full mediation model and when the indirect effects are significant. Partial mediation is shown when the partial mediation model fits better than the full mediation model, when the indirect effects are significant, and when the initial direct effects (Step 1) are reduced substantially by including the mediator(s).

As shown in Table 4 (top half), the conditions for partial mediation were met when modeling child-invested

of the association between country and achievement-oriented psychological control. That is, the best fitting model included an indirect association between country and achievement-orie

child-invested contingent self-esteem as well as a direct path from country to achievement-oriented psychological control (SBS-$\chi^2(12) = 67.43$; $p < .001$, RMSEA = .11, CFI = .96, NNFI = .93 for the maternal model, and SBS-$\chi^2(12) = 80.52$; $p < .001$, RMSEA = .12, CFI = .96, NNFI = .93 for paternal model). Thus, both in the maternal and paternal data country still had a direct effect on achievement-oriented psychological control in addition to its indirect association via child-invested contingent self-esteem. Yet, the original effects of country on achievement-oriented psychological control were reduced to half of their size. Furthermore, as shown in Table 4, bootstrap analysis with 5000 samples indicated that the indirect path from country of residence to psychological control via child-invested contingent self-esteem was significant for both maternal and paternal ratings.

Next, we examined whether social pressure and unfulfilled dreams would serve as mediators of the relation between country of residence and child-invested contingent self-esteem (see Table 4, bottom half). We found evidence for partial mediation in the maternal ratings and for full mediation in the paternal ratings. While in the maternal ratings the partial mediation model was the best fitting model (SBS-$\chi^2(49) = 113.10$; $p < .001$, RMSEA =

.06, CFI = .98, NNFI = .97), in the paternal ratings the partial mediation model did not have a better fit than the full mediation model, which yielded adequate fit (SBS-$\chi^2(50) = 93.61$; $p < .001$, RMSEA = .05, CFI = .98, NNFI = .98). In the maternal ratings the initial association for country of residence remained significant, yet was reduced with 50%. In the paternal ratings, the initial direct effect became non-significant (further indicating full mediation). Finally, as shown in Table 4, bootstrap analyses with 5000 samples indicated that the indirect associations between country and child-invested contingent self-esteem through social pressure and unfulfilled dreams were significant for both mothers as fathers.

Discussion

Given that Chinese parents have been found to use more psychological control towards their children than Western parents, it is important to gain insight in this between-country difference. A recent study by Ng and colleagues (2014) uncovered one tip of the veil by showing that Chinese parents tend to hinge their self-esteem more heavily on their children's achievements which, in turn, is related to their use psychological control. Yet, it remains unclear why Chinese parents invest their self-esteem more strongly in their children's performance. In the present research, we examined two different roads to child-invested contingent self-esteem and subsequent psychological control, one being interpersonal in nature (i.e., experiences of social pressure) and the other being more intrapersonal in nature (i.e., parents' personal history of unfulfilled dreams).

Two Roads to Psychological Control Through Child-invested Contingent Self-esteem

Although the literature on psychologically controlling practices has burgeoned over the past two decades, less attention has been paid to *domain-specific manifestations* of psychological control (Soenens et al., 2010). Given that the assessment of child-invested contingent self-esteem involved

a clear reference to children's achievements, we deemed it most appropriate to focus on achievement-oriented psychological control in the present study. Parents high on this dimension tend to use guilt-trips and express disappointment when their children are insufficiently successful, while they display elevated enthusiasm and pride when children are successful. Because parents' approval and recognition covaries with children's achievement, children feel like they have no other choice than to perform well. This experience of pressure is known to come with a cost, as indexed by ill-being, problem behaviors, and poorer self-regulation (Soenens & Vansteenkiste, 2010).

Consistent with Ng et al. (2014), we reasoned that one important reason why parents rely on more controlling practices in the achievement domain is because they feel that their own self-worth is implicated in the performances of their child. This prediction was confirmed, with parental child-invested contingent self-esteem emerging as a robust predictor explaining up to 43% of the variance in parents' use of psychological control.

A more novel aspect of the present research involved the examination of antecedents of child-invested contingent self-esteem. Social pressure have been identified as one key source of influence on parental behavior (Belsky, 1984). Herein we focused specifically on perceived social pressure to be an achievement-promoting parent, which involves the experience that parents are made accountable by different societal actors for the success and failures of their child (Wuyts et al., in press). We found that such social pressure relate to parents' tendency to hinge their self-worth on the achievements of their child. Presumably, this vulnerable form of self-worth gets activated through the social pressure placed on parents, which then lead parents to transfer this experienced pressure to their children through the use of psychological control.

In addition to this interpersonal pressure, we investigated the relation with a more intrapersonal factor, namely parents' personal unfulfilled dreams. Brummelman and colleagues (2013) provided experimental

evidence suggesting that parents want their child to redeem their broken dreams when they see their child as part of themselves. Yet, it remained unexamined whether such a desire translates into actual parenting practices and which process can account for this association. We showed that when parents report regrets for insufficiently realizing their personal ambitions, their self-esteem is implicated more strongly in their child's performance, which helps to explain why unfulfilled dreams relate positively to parents' use of achievement-oriented psychological control. Presumably, parents with unfulfilled dreams project their aspirations on their children. This reasoning is supported by research showing that perfectionist parents transmit their own standards for perfection to their children (Soenens et al., 2005). Because parents would feel that their self-worth depends on their children's achievement of these unfulfilled aspirations, they would become more likely to engage in achievement-oriented psychological control.

The structural associations in this integrated model did not differ between Chinese and Belgian parents. Regardless of parents' cultural background, parents tend to translate their perceived social pressure and unfulfilled dreams into achievement-oriented pressure towards the next generation because they rely more on their child's performances to gain self-esteem. Of course, the finding that structural associations between our study variables were equivalent across the two countries does not preclude the possibility of important mean-level differences between these countries in terms of the study variables.

Country Level Differences and Underlying Mechanisms

As expected, we found evidence for elevated levels of social pressure among Chinese parents, which resonates with the idea that Chinese society is more heavily focused on performance and excellence than Belgian society (Hofstede, 2001). Both Belgium and China have an open market society, but they differ markedly (a) in the importance placed on high-stakes testing, (b) in their focus on achievement in the cultural heritage, and (c) in

their family structure (i.e., number of children). Although the present research was not able to identify exactly which of these country differences accounted the observed elevated levels of social pressure among Chinese parents, we did find that differences in perceived social pressure were related to the way parents think about their parenting role (Sperber, 1996). The notion that Chinese parents increasingly feel pressured to rear successful and high achieving children has been around for a while in the popular media. For instance, in 2011 Amy Chua published the book Battle Hymn of the Tiger Mother, in which she characterized the Confucian tradition as involving high expectations on Chinese parents' responsibility of raising successful children (Chua, 2011). Our study is among the first to address this notion empirically and the evidence seems consistent with Amy Chua's claim.

Furthermore, Chinese parents were also found to report more unfulfilled dreams than Belgian parents do. These heightened levels of unrealized dreams may reflect the restrictions that Chinese parents experienced when growing up themselves. This difference needs to be situated against the background of the aftermath of the Cultural Revolution, a period during which the majority of the Chinese parents in our study grew up. Such restrictions may have increased Chinese parents' desire to realize their unfulfilled or even failed ambitions through their one child.

The observed mean-level differences in experienced social pressure to be an achievement-oriented parent and unfulfilled dreams were found to be reflected in the mean-level differences in parents' child-invested contingent self-worth. Specifically, we demonstrated that these pressures constitute the underlying mechanisms (i.e., mediators) that explain at least partially Chinese parents' heightened susceptibility for hinging their self-worth on their child's performance. In turn, this fragile form of self-worth seemed to lower the threshold for parents to rely on psychologically controlling strategies. Indeed, parents' child-invested contingent self-esteem appeared to be an important factor explaining at least partially the mean-

level differences in Chinese (vs. Belgian) parents' use of achievement-oriented psychological control.

Limitations, Future Directions, and Practical Recommendations

The current research has some limitations. First, our study was limited by the reliance on self-reports. To avoid possible response bias in future research more objective measures of pressures and behavioral measures of parenting are needed. Also a qualitative approach would allow for a more detailed and richer exploration of the meaning attached to the central concepts in both countries. Second, the cross-sectional nature of our studies prevented us from examining reciprocal relations between the measured concepts.

A number of future research directions are proposed. First, because our cross-national comparison included only two nations, more research is needed to test the generalizability of our model across nations characterized by a different cultural climate. For instance, it would be interesting to invest the proposed model in a nation in which excellence and performance are of less importance than those included in the present study. We expect that within such a society decreased levels of pressures among parents would be found. Second, because we measured parental child-invested contingent self-esteem at a relatively high level of generality (i.e., with reference to the child's overall achievement and performance), future research may examine these dynamics within more specific life domains, such as schooling, sports, or arts.

Finally, in terms of practical utility, the identification of key predictors of parents' reliance on psychologically controlling strategies is critical because accumulating evidence shows that such parenting is associated with maladjustment across the globe (see for a review Pomerantz, Ng, Cheung, & Qu, 2014). The current research suggests that parents' reliance on achievement-oriented psychological controlling strategies is determined at least partially by pressures situated in the broader socio-

economic and cultural environment. In light of such findings, it is advisable to consider ways to diminish pressures on parents, for instance, by deemphasizing parents' accountability for their offspring's achievements. Further, downplaying an emphasis on competition and excellence at the societal level may help to take away some of the pressures on parents.

Given that it may be very difficult to achieve a reduction of interpersonal pressures at the societal level, it may also be important to train parents to become aware of the pressures in their surroundings and in their own functioning and to provide them with the necessary support and skills to cope with these pressures. Such coping skills may help to counter the adverse effects of these pressures. This suggestion does not imply that parents should withdraw all involvement with and concern about their children's schooling. Yet, the type of involvement parents display would be different, that is, it would be less controlling and more autonomy-supportive in nature (e.g., Katz, Kaplan, & Buzukashvily, 2011).

Conclusion

This cross-cultural study showed that, regardless of the parents' country of residence, the more they perceive pressure from their social environment to rear a successful child on the one hand and the more they regret having failed to realize important personal dreams on the other hand, the more their self-worth is implicated in the performances of their child. Such a fragile form of self-worth then translates into parents' use of psychological controlling practices to push their child to achieve well. Especially Chinese parents were found to experience these social pressures and to report unfulfilled reams, which helped to explain their heightened tendency to hinge their own self-worth on their children's performance and their vulnerability to engage in a detrimental, psychologically controlling style of interacting with their children.

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Chapter 4

Raising Trophy Kids: Do Mothers With Contingent Self-Esteem Prioritize Extrinsic over Intrinsic Goals in Their Child-Rearing?[1]

This study examined the role of mothers' child-invested contingent self-esteem, that is, their tendency to hinge their self-worth on their child's achievements, in mothers' promotion of extrinsic goals. Participants were 184 mothers and their adolescent children (66% female). While mothers reported on their own pursuit of goals and on child-invested contingent self-esteem, adolescents reported on their mother's promotion of goals. Maternal child-invested contingent self-esteem predicted adolescent-perceived maternal promotion of extrinsic goals, even when taking into account the variance shared between the promotion of extrinsic goals and mothers' use of a controlling parenting style. Maternal child-invested contingent self-esteem also moderated associations between mothers' personal pursuit of extrinsic goals and their promotion of those goals, such that the association between mothers' own extrinsic goals and their promotion of those goals was significant only among mothers high on child-invested contingent self-esteem. Implications of these findings for adolescents' personal and social development are discussed.

[1] Soenens, B., Wuyts, D., Vansteenkiste, M., & Mageau, G. A. (2014). Raising trophy kids: Do mothers with contingent self-esteem prioritize extrinsic over intrinsic goals in their child-rearing? *Manuscript submitted for publication*.

Introduction

Some parents emphasize to their children the importance of goals such as being rich, being popular, and being good-looking. Although these goals are appealing at first sight, they are known to provide little lasting satisfaction and happiness in the longer run (Kasser & Ahuvia, 2002). Why are some parents then more likely to prioritize such extrinsic goals, even at the expense of more inherently rewarding intrinsic goals such as contributing to the community (e.g., through volunteering work)? In this study, we examined the potential role of maternal child-invested contingent self-esteem, that is, the tendency for parents to hinge their self-worth upon their children's achievement. We additionally examined the interplay of mothers' personal endorsement of extrinsic goals and child-invested contingent self-esteem in predicting their promotion of extrinsic goals.

Extrinsic and Intrinsic Goals and Goal Promotion

In Goal Content Theory, one of the mini-theories within Self-Determination Theory (SDT; Deci & Ryan, 2000), a distinction is made between intrinsic goals such as community contribution, affiliation, and personal development and extrinsic goals such as financial aspirations, physical attractiveness, and fame. Many studies have shown that extrinsic goals are distinct from intrinsic goals and that both types of goals are related differently to individuals' personal and social functioning (e.g., Grouzet et al., 2005; Kasser & Ryan, 1996). Extrinsic, relative to intrinsic, goals have been found to relate to lower personal well-being (e.g., Kasser & Ryan, 1996), decreased academic performance and motivation (e.g., Ku, Dittmar, & Banerjee, 2012), and even symptoms of psychopathology including bulimic symptoms (e.g., Thogersen-Ntoumani, Ntoumanis, & Nikitaras, 2010). Also, research has documented important social and societal costs of the pursuit of extrinsic, relative to intrinsic goals, including prejudice (Duriez, Vansteenkiste, Soenens, & De Witte, 2007) and less ecologically responsible behavior (Brown & Kasser, 2005).

According to SDT, extrinsic goals are detrimental because, in contrast to intrinsic goals, they do not provide satisfaction and can even undermine satisfaction of individuals' basic psychological needs, that is, the needs for autonomy, competence, and relatedness (Deci & Ryan, 2000; Vansteenkiste, Soenens, & Duriez, 2008). That is, when pursuing extrinsic goals people would feel pressured to demonstrate their personal worth through the attainment of extrinsic goods (autonomy frustration), may more easily doubt their capacity to achieving their goals (competence frustration), and would be more likely to engage in a competitive interpersonal comparison that alienates them from others (relatedness frustration). Research indeed suggests that, whereas intrinsic goals are related positively to need satisfaction, extrinsic goals relate to need frustration (e.g., Niemiec, Ryan, & Deci, 2009; Unanue, Vignoles, Dittmar, & Vansteenkiste, in press).

Although the vast majority of the studies grounded in Goal Content Theory have examined the correlates of the *personal* endorsement of intrinsic, relative to extrinsic, goals the study of the *contextual promotion* of extrinsic (relative to intrinsic) goals by others, including socialization figures, has received increasing attention (Vansteenkiste et al., 2008). Specifically with regard to parents, it has been shown that when parents encourage their children to pursue extrinsic (relative to intrinsic) goals, children are more likely to display antagonistic social orientations including social dominance and prejudice (Duriez, Soenens, & Vansteenkiste, 2007). Further, parental promotion of extrinsic goals also has been found to relate to poorer learning. Specifically, Mouratidis, Vansteenkiste, Lens, Michou, and Soenens (2013) found that adolescent-perceived parental promotion of extrinsic goals was predictive of increases in a performance-oriented learning orientation and test anxiety and of decreases in effort and grades across a school year. Given the detrimental outcomes associated with parents' promotion of extrinsic goals, it is important to identify its antecedents. Herein, we address the role of parental child-invested contingent self-esteem.

Parental Goals and Child-Invested Contingent Self-esteem

Child-invested contingent self-esteem refers to parents' tendency to hinge their self-worth on their children's achievements (Ng, Pomerantz, & Deng, 2014; Wuyts, Vansteenkiste, Soenens, & Assor, in press). It is characteristic of parents who seek to enhance their self-worth through the child's accomplishments. As a consequence, their self-esteem is likely to vary with the child's performance: Parents feel more proud and successful when the child is successful, while the parents' self-worth plummets when the child fails to meet standards of excellence.

It has been hypothesized that parents high on child-invested contingent self-esteem would engage in more controlling or pressuring parenting because they would consider the use of controlling tactics as the fastest and most cost-efficient route to push the child towards success and, consequently, to boost their own self-worth. Research using a variety of designs and methods, including cross-cultural comparison (Ng et al., 2014), observations of controlling parenting (Grolnick, Price, Beiswenger, & Sauck, 2007), and longitudinal research (Wuyts et al., in press), has confirmed that child-invested contingent self-esteem is indeed related to more controlling parenting.

We aimed to add to this small body of work by examining whether parental child-invested contingent self-esteem would be related not only to parental style (i.e., *how* controlling parents interact with the child) but also to the content of the goals they highlight towards the child (i.e., *what* kind of goals they promote; Duriez, Soenens et al., 2007). Specifically, we hypothesized that child-invested contingent self-esteem would be related to parental promotion of extrinsic (but not intrinsic) goals. The child's attainment of extrinsic goals would be conceived by parents high on child-invested contingent self-esteem as a critical indicator of the child's success. This would be the case because, at least in Western society, extrinsic goals are highly socially valued (Kasser, Cohn, Kanner, & Ryan, 2007) and are often portrayed as a key indicator of success (Dittmar, 2007). As such,

parents high on child-invested contingent self-esteem may anticipate more social recognition and a stronger boost to their own ego when their child aspires to and eventually attains extrinsic goals.

Another, perhaps more obvious, antecedent of parents' promotion of extrinsic goals is parents' own pursuit of extrinsic goals. Research indeed shows that, on average, parents tend to promote to their children the goals they value themselves (e.g., Benish-Weisman, Levy, & Knafo, 2013). Accordingly, it can be expected that parents who pursue extrinsic goals themselves are more likely to promote those goals towards their child. It should be noted, however, that this association is far from perfect, indicating that parents differ in the degree to which they promote the goals they hold themselves to their children. Herein, we considered the possibility that mothers' child-invested contingent self-esteem affects the degree to which mothers' personal extrinsic goals pursuit manifests in the promotion of those goals to their children. In other words, child-invested contingent self-esteem may moderate the association between mothers' personal pursuit of extrinsic goals and their promotion of those goals.

The Present Study

On the basis of SDT we examined the hypothesis that both parental child-invested contingent self-esteem and parental personal pursuit of extrinsic goals would be related to parental promotion of such goals. We also examined the possibility that both factors would interact in the prediction of parents' promotion of extrinsic goals. These hypotheses were examined in a sample of adolescents and their mothers. Adolescence is a particularly relevant developmental period to examine processes involved in the socialization of goals because identity formation is a central developmental task during this period (Erikson, 1968) and because (intrinsic and extrinsic) goals are an important part of adolescents' emerging identity (Soenens & Vansteenkiste, 2011). Testifying to the dynamic role of intrinsic and extrinsic goals in processes of identity formation, Duriez, Luyckx, Soenens,

and Berzonsky (2012) demonstrated reciprocal longitudinal associations between the content of adolescents' goals and their style of approaching the identity exploration process.

To provide a conservative test of our hypotheses, we relied on a multi-informant approach with mothers reporting on their own goals and their child-invested contingent self-esteem and with adolescents reporting on maternal promotion of extrinsic goals. In addition, we controlled for the effect of controlling parenting. As mentioned before, child-invested contingent self-esteem is related to more controlling parenting. Moreover, research has shown that parents' controlling style has a modest yet significant (positive) association with the promotion of extrinsic goals (Duriez, Soenens, et al., 2007). As such, any association between child-invested contingent self-esteem and extrinsic goal promotion might be due to the variance shared between parents' style and content of goal promotion. We thus took into account the variance shared with controlling parenting to examine whether the association between child-invested contingent self-esteem and extrinsic goals is unique.

Method

Participants and Procedure

Participants were 10th to 12th grade students from three secondary schools in Flanders (Belgium) and their mothers. All students were following the academic track. Passive informed consent was obtained from parents. Parents received a letter that explained the purpose and method of the study two weeks prior to the data collection and they were asked to fill out a form if they did not want their child to participate in the study. In addition, mothers received a questionnaire that they were asked to fill out and to deliver to the school's principal by the time data collection would take place. A passive (rather than active) consent procedure was used because active consent procedures with parents may result in sampling biases that over-represent well-functioning adolescents and families (Lamborn, Mounts,

Steinberg, & Dornbusch, 1991). A total of 10 parents did not allow their child to participate. The adolescent questionnaires were administered during a class period. Students had approximately 45 minutes to complete the survey.

The sample initially consisted of 290 adolescents, of which 184 mothers (63%) also participated. To examine whether adolescents of participating parents differed from adolescents from non-participating parents on the study variables, we ran a series of independent samples *t*-tests. No significant differences were found between the two groups of adolescents on the study variables reported by adolescents (i.e., maternal promotion of extrinsic goals and maternal promotion of intrinsic goals; both *p*s > .05). Maternal participation did show a small yet significant association with adolescent gender (χ^2 (1) = 4.24, $p < .05$) with girls being more represented relative to boys in the subsample of adolescents whose mothers participated. However, adolescent gender did not have substantial effects on the study variables (see below).

The final sample used in this study consisted of 184 mother-adolescent dyads. The adolescent sample was 66% female and adolescents ranged in age from 14 to 20 years (*M* = 16.83; *SD* = 0.98). A total of 154 families (84%) were intact (i.e., both biological parents were married or living together). Mothers' mean age was 45 years (*SD* = 3.99). They indicated their educational level on a scale from 1 (*highest degree obtained = primary school*) to 6 (*highest degree obtained = university*). Their mean educational level was 4.03 (*SD* = 1.26), indicating an average of about 15 years of education.

Measures

Child-invested contingent self-esteem. Mothers were administered the Child-invested Contingent Self-Esteem Scale (Assor, Roth, Israeli-Halevi, Freed, & Deci, 2007; Wuyts et al., in press). This 15-item scale contains items assessing the extent to which parents' self-esteem is

contingent upon children's achievement (e.g., "How I feel about myself is often related to my child's achievements."). Items were rated on a 5-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Wuyts et al. (in press) demonstrated the reliability of the scale (with Cronbach's alpha values ranging around .90) as well as its validity. For instance, the scale was associated with conceptually related constructs such as parental perfectionism and was predictive of both parent- and child-reported scores on controlling parenting. In the current study, Cronbach's alpha was .92.

Maternal personal pursuit of goals. Mothers filled out an 18-item version (Duriez, Vansteenkiste et al., 2007) of the Aspiration Index (Kasser & Ryan, 1996), which is the standard measure of extrinsic and intrinsic goal pursuit as conceptualized in SDT. Mothers rated to what extent they attached importance to the extrinsic values of financial success, image / physical attractiveness, and fame. They also rated to what extent they attached importance to the intrinsic values of growth, community contribution, and affiliation. Each subscale was measured with three items (e.g., "It is important to me to be financially successful in life."). We computed total scores for extrinsic and intrinsic goal pursuit by averaging the subscales representing both higher-order dimensions. Cronbach's alpha were .85 and .88 for extrinsic and intrinsic goal pursuit, respectively.

Adolescent-perceived maternal promotion of goals. Adolescents rated the extent to which they felt their mothers encouraged them to pursue extrinsic and intrinsic goals using a scale developed by Duriez, Soenens, and Vansteenkiste (2007, 2008). This scale is a straightforward adaptation of the Aspiration Index. Rather than measuring parents' own goal pursuit, it taps into the degree to which parents promote different goals vis-à-vis their children. To this end, the same 18 items from the Aspiration Index were rephrased to assess adolescents' perceived parental goal promotion. An example item for perceived mother-promoted extrinsic goals reads: "My mother finds it important that I am financially successful in my life.".

Cronbach's alpha were .81 and .84 for extrinsic and intrinsic goal promotion, respectively.

Psychological control. Mothers were administered a parent version of the well-validated Psychological Control Scale – Youth Self Report (PCS-YSR; Barber, 1996; 8 items, e.g., "I am less friendly to my son/daughter if s/he doesn't see things like I do."). Cronbach's alpha in the current study was .72.

Results

Descriptive Statistics, Correlations, and Background Variables

Descriptive statistics and correlations between the study variables can be found in Table 1. As expected, maternal child-invested contingent self-esteem was related to adolescent perceived promotion of extrinsic goals and unrelated to promotion of intrinsic goals. Also as expected, mothers' personal pursuit of extrinsic goals was related to adolescent-perceived promotion of extrinsic goals. Similarly, mothers' personal pursuit of intrinsic goals was related to adolescent-perceived promotion of intrinsic goals. Finally, maternal child-invested contingent self-esteem was related positively to maternal pursuit of extrinsic goals. There was also a smaller positive association with maternal pursuit of intrinsic goals. However, this association became non-significant when controlling for the variance shared between intrinsic and extrinsic goal pursuit (partial $r = .03$, $p > .05$).

To examine whether adolescent gender and family structure (intact versus non-intact) were related to the study variables, we conducted a multivariate analysis of variance with gender and family structure as fixed variables and with all study variables as dependent variables. Neither the multivariate effect of gender (Wilks' Lambda = 0.94, F (6, 169) = 1.76, $p > .05$) nor the multivariate effect of family structure (Wilks' Lambda = 0.98, F (6, 169) = 0.69, $p > .05$) was significant. We also examined associations of adolescent age, maternal age, and maternal educational level with the study variables. Both adolescent age and maternal age were related negatively to

Table 1

Correlations and Descriptive Statistics

	M (SD)	α	1	2	3	4	5	6
1. Child-invested contingent self-esteem (MR)	2.77 (0.69)	.92	-					
2. Controlling parenting (MR)	2.15 (0.58)	.73	.27***	-				
3. Personal Extrinsic Goals (MR)	2.72 (0.67)	.87	.49***	.25***	-			
4. Personal Intrinsic Goals (MR)	4.17 (0.55)	.88	.14*	-.15*	.26***	-		
5. Promoted Extrinsic Goals (AR)	2.68 (0.66)	.85	.22**	.16*	.25***	.00	-	
6. Promoted Intrinsic Goals (AR)	3.98 (0.56)	.84	.00	.06	.02	.30***	.16**	-

Note: MR = Mother Report; AR = Adolescent Report.

* $p < .05$. ** $p < .01$. *** $p < .001$.

maternal pursuit of extrinsic goals (r = -.18, p < .05 and r = -.17, p < .05, respectively), indicating that older mothers and mothers with older children were oriented less towards extrinsic goals. Maternal educational level was related positively to maternal pursuit and promotion of intrinsic goals (r = .25, p < .001 and r = .20, p < .01, respectively) and was related negatively to maternal pursuit of extrinsic goals (r = -.25, p < .001). Given these associations, we controlled for the effects of age (mother and adolescent) and maternal educational level in a subsequent set of regression analyses.

Regression Analyses

To examine whether maternal child-invested contingent self-esteem would predict adolescent-perceived maternal promotion of extrinsic goals controlling for relevant background variables and for the variance shared with controlling parenting, we conducted a regression analysis. It was deemed important to take into account the variance shared with controlling parenting because correlations (see Table 1) confirmed that controlling parenting was related positively to child-invested contingent self-esteem as well as to maternal promotion of extrinsic goals. A regression analysis including mother age, adolescent age, , maternal educational level, and controlling parenting as control variables showed that child-invested contingent self-esteem was related significantly to adolescent-perceived promotion of extrinsic goals (β = .19, p = .01). A similar regression analysis with adolescent-perceived promotion of intrinsic goals as the dependent variable showed that child-invested contingent self-esteem was unrelated to the promotion of intrinsic goals (β = .00, p > .05).

The interactive interplay of child-invested contingent self-esteem and maternal pursuit of goals in the prediction of mothers' promotion of goals was examined using the procedures outlined by Aiken and West (1991). Scores for maternal pursuit of goals and child-invested contingent self-esteem were standardized and their interaction was computed as the product of the standardized scores. We conducted 2 separate regression

analyses, one with extrinsic goals and one with intrinsic goals. A regression analysis predicting perceived maternal promotion of extrinsic goals on the basis of maternal pursuit of extrinsic goals, child-invested contingent self-esteem, and their interaction (including also the control variables) showed that the anticipated interaction between child-invested contingent self-esteem and mothers' personal pursuit of extrinsic goals was significant ($\beta = .16$, $p < .05$). The interaction predicting perceived promotion of intrinsic goals on the basis of child-invested contingent self-esteem and mothers' personal pursuit of intrinsic goals was not significant ($\beta = -.10$, $p > .05$).

To interpret the interaction predicting perceived maternal promotion of extrinsic goals, the regression slope of maternal extrinsic goal pursuit was examined at low (mean - 1 *SD*) and high levels (mean + 1 *SD*) of the moderator (i.e., child-invested contingent self-esteem). Whereas maternal extrinsic goal pursuit did not significantly predict perceived promotion of extrinsic goals at low levels of child-invested contingent self-esteem ($\beta = .18$, $p > .05$), it did have a significant effect at high levels of child-invested contingent self-esteem ($\beta = .48$; $p < .01$). Mothers who pursued extrinsic goals themselves were only perceived to also promote extrinsic goals when they scored high on child-invested contingent self-esteem.

To gain further insight in this interaction, we also plotted it the other way around. That is, we inspected effects of child-invested contingent self-esteem at low and high levels of maternal extrinsic goal pursuit. Results showed that whereas child-invested contingent self-esteem was unrelated to the promotion of extrinsic goals at low levels of maternal extrinsic goal pursuit ($\beta = -.18$, $p > .05$), it did have a significant effect at high levels of maternal extrinsic goal pursuit ($\beta = .40$, $p < .05$). This pattern of findings again showed that the combination of maternal endorsement of extrinsic goals and child-invested contingent self-esteem was related most strongly to the perceived promotion of extrinsic goals.

Discussion

Research increasingly shows that when parents prioritize extrinsic goals over intrinsic goals in their child-rearing, children display unfavorable developmental outcomes including a social dominance orientation (Duriez, Vansteenkiste et al., 2007) and a performance-oriented approach to learning (Mouratidis et al., 2013). The current study identified at least one important psychological antecedent of parental promotion of extrinsic goals, that is, child-invested contingent self-esteem. We found that mothers who invest their self-worth in their children's achievement are perceived to promote more extrinsic goals. Mothers who strive to obtain self-worth through their children's accomplishments may highlight the importance of extrinsic goals to their children because those goals are perceived to bring about social recognition, success, and happiness and, as such, seem ideal to boost their ego as a parent. People are indeed inclined to believe that socially valued and visible outcomes such as money and beauty will make them happy (Sheldon, Gunz, Nichols, & Ferguson, 2010). Ironically, however, the pursuit and even the attainment of extrinsic goals typically do not produce the anticipated happiness and success in the long run (Kasser & Ryan, 1996). As such, through parental promotion of extrinsic goals adolescents may be taught to pursue goals that seem promising at first sight but that fail to foster lasting and deep-level psychological health.

Consistent with previous research (e.g., Ng et al., 2014; Wuyts et al., in press), we found that child-invested contingent self-esteem was related to a more controlling parenting style. Importantly, our findings also showed that the association of child-invested contingent self-esteem with the promotion of extrinsic goals remained significant when taking into account its association with controlling parenting. These findings suggest that child-invested contingent self-esteem has unique repercussions for both parents' style of interacting with their children and for the content of the goals that are emphasized. The findings also suggest that child-invested contingent self-esteem may be detrimental to children's psychosocial adjustment in two

different ways: whereas controlling parenting has been shown to be mainly predictive of children's ill-being and personal maladjustment (e.g., Joussemet, Landry, & Koestner, 2008; Soenens & Vansteenkiste, 2010), parental promotion of extrinsic goals has been shown to be mainly predictive of undesirable outcomes at the social and societal level (e.g., Duriez, Soenens et al. 2007). As such, children of parents high on child-invested contingent self-esteem may be vulnerable not only to decreased personal well-being but also to detrimental social attitudes and behaviors such as prejudice, machiavellism, and unethical behavior. More direct research is needed to examine associations between child-invested contingent self-esteem and these social developmental outcomes, as well as the intervening role of parental goal promotion in these associations.

Our findings showed that child-invested contingent self-esteem also played another important role, that is, as a moderator of the association between mothers' personal pursuit of extrinsic goals and their promotion of those goals. That is, child-invested contingent self-esteem appears to function as a catalyst of mothers' own extrinsic goals: only mothers high on child-invested contingent self-esteem seem to impose their own extrinsic goal framework on their child by emphasizing those goals in the child-rearing process. It makes sense indeed that mothers who strive to enhance their self-worth through the child's successes and who at the same time believe that extrinsic goal pursuit is the path to happiness and success, highlight the importance of extrinsic goals in their communication with the child.

Conversely, the findings also suggest that not all mothers who personally pursue extrinsic goals also promote those goals towards their child, a finding consistent with recent research showing that parents' personal goals are distinct from their socialization goals (Benish-Weisman et al., 2013). Specifically, low scores on child-invested contingent self-esteem – which may reflect a more secure and authentic sense of worth – may buffer against the transmission of extrinsic goals. When mothers feel secure as a

person and do not hinge their self-worth on the child's achievement, they do not necessarily impose their own value system on the child. These findings are in line with the general notion of inter-individual differences in the motivational regulation of (extrinsic) goals. That is, people differ in the degree to which they pursue extrinsic goals for controlled and pressuring reasons (such as contingent self-esteem) versus relatively more autonomous and volitional reasons (such as a personal endorsement of and identification with the importance of those goals) (Sheldon, Ryan, Deci, & Kasser, 2004). Our findings suggest that mothers' pursuit of extrinsic goals only translated into an emphasis on extrinsic goals in child-rearing when it was driven by relatively more controlled reasons (i.e., maternal attempts to prove themselves through their child's successes). When driven by relatively more autonomous reasons, parents may be more flexible in the type of goals they promote to their children and they may be more open towards the goals preferred by the children themselves, thus not necessarily imposing their own values. Future research may address this possibility.

Note that the interaction between child-invested contingent self-esteem and maternal pursuit of extrinsic goals can also be interpreted in a different way: child-invested contingent self-esteem is only predictive of the promotion of extrinsic goals when mothers pursue those goals themselves. Interpreted this way, the effect of child-invested contingent self-esteem on the promotion of extrinsic is qualified, that is, it occurs only among mothers who themselves prioritize extrinsic goals. Either way, the findings show that the combined presence of maternal child-invested contingent self-esteem and personal maternal pursuit of extrinsic goals is required for children to experience their mothers as highlighting extrinsic goals for them.

Limitations and Directions for Future Research

One obvious and important limitation of this study is that it included only mothers and not fathers. Extant research has shown that dynamics involved in parental goal promotion (e.g., Duriez, Soenens et al., 2007) and child-invested contingent self-esteem (e.g., Wuyts et al., in press) are

generally similar for mothers and fathers. Still, it remains important to replicate the current findings in a sample of fathers. Another important limitation of this study is its cross-sectional design. Although we assumed that maternal child-invested contingent self-esteem and personal goal pursuit were antecedents of adolescent-perceived maternal goal promotion (and subsequent developmental outcomes), our study cannot speak to the direction of effects in these associations. Possibly, parents themselves are also affected by the type of goals pursued by children and their self-worth might become fragile as a consequence of the importance attached by children to extrinsic goals. Future longitudinal research can address this possibility. Such research is also needed to examine the long-term consequences of parental promotion of intrinsic and extrinsic goals.

Future research may broaden the scope of antecedents of parental promotion of extrinsic goals. It seems plausible, for instance, that cultural orientation may play a role. Kasser (2011) has shown that countries differ considerable in terms of whether extrinsic or intrinsic goals are emphasized at the cultural level and that these differences are related to nation-level differences in well-being. Given these findings, it seems important to examine whether parents are more inclined to invest their self-worth in their children's achievement in countries where extrinsic values are more salient at the societal level.

Conclusion

The combination of maternal child-invested contingent self-esteem and maternal personal pursuit of extrinsic goals appeared to be the most risky cocktail for the promotion of extrinsic goals. When mothers themselves held extrinsic goals and at the same time strived to demonstrate their worth through the child's accomplishments, they were most likely to promote extrinsic goals towards their child. Although these mothers may believe that the pursuit of extrinsic goals paves the way for a happy and successful life, research indicates that there are important personal and social costs to such goal pursuit. As such, our findings may be of relevance to family-based

prevention and intervention programs. While such programs typically deal with ameliorating parents' style of interacting with their child (e.g., being more supportive and less controlling), it may be important to inform parents also about the repercussions of the content of the goals they prioritize towards their children. Parents can be made aware of the ironic and backfiring effects of extrinsic goals and they can be presented with a healthier alternative, that is, the pursuit and promotion of intrinsic goals such as community contribution, affiliation, and self-development.

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Chapter 5

Effects of Induced Ego-involvement, Manipulated Child Performance, and Parental Motivational Orientation on Parents' Use of Control: An Experimental Investigation[1]

This study simultaneously addressed the role of three sources of pressure (i.e., social pressure, child performance, and parents' motivational orientation) on parents' use of control. 124 parents worked with their 5th or 6th grade children on a 10-minute puzzle task, followed by a free-choice period. Prior to the task, parents reported on their autonomous and controlled orientation. Social pressure was induced by providing parents with an ego- versus task-involved instruction, while children's performance was manipulated by varying the standards for performance (high versus low). We coded parents' controlling (relative to autonomy-supportive) interaction style, dyadic reciprocity, engagement, and performance and parents reported on their tension and fear. In the free-choice period the dyads' degree and quality of persistence were registered. Both children's failure to meet the performance standards and parents' controlled orientation related positively to parents' controlling style while working on the puzzle task. The induction of ego-involvement led to parents' controlling style in the free-choice period and to low quality persistence. Furthermore, observed parental control served as an intervening variable between the three sources of pressure and lowered dyadic reciprocity, engagement, and task efficiency. Although

[1] Wuyts, D., Vansteenkiste, M., Soenens, B., & Mabbe, E. (2015). Effects of induced ego-involvement, manipulated child performance, and parental motivational orientation on parents' use of control: An experimental investigation. *Manuscript submitted for publication.*

parents reported under pressuring conditions more fear and tension, parents' autonomy orientation tended to play a buffering role against the effects of child failure on parent-reported tension. In sum, each of the sources of pressure had effects on parents' use of control which, in turn, related to lower dyadic reciprocity, engagement, and performance efficiency. Parents' autonomous orientation played a buffering role for negative experiences under pressuring conditions.

Introduction

There is increasing consensus that controlling parenting, when defined as parenting that is domineering and pressuring, undermines children's well-being, performance, and social adjustment (e.g., Soenens & Vansteenkiste, 2010). Relatively few studies, however, have examined antecedents of controlling parenting. Pressure on parents has been identified as the main reason why parents interact in a more controlling way (Grolnick, 2003), as pressure would reduce parents' energy and psychological availability. It would also narrow parents' perspective and would lead them to focus rigidly on outcomes. As a consequence, pressure may lead parents to turn towards the most straightforward and cost-efficient way to achieve the desired outcomes. A controlling approach, which for instance involves solving problems in the child's place, is likely to be perceived as such a fast and cost-efficient way of reaching parents' goals. In contrast, taking the child's perspective and allowing children to solve their own problems at their own pace (i.e., an autonomy-supportive approach) is likely perceived to require more time and patience, resources that are restricted under pressure.

Herein, we argue, based on previous theory and research (Belsky, 1984; Grolnick, 2003), that pressure on parents can arise from three different sources, that is, parents' social environment, parents' own functioning, and their child's behavior and performance. The present study is among the first to investigate the simultaneous and interactive contribution of these three sources of pressure on parents' use of controlling relative to autonomy-

supportive interaction style. We also examined effects of these three sources of pressure on parents' emotional experiences and on the dyad's functioning.

Parents' Use of Control Relative to Autonomy Support

Parents differ in the style they use to interact with their children in general and in the context of their child's learning and school work in particular (e.g., Katz, Kaplan, & Buzukashvily, 2011; Pomerantz, Moorman, & Litwack, 2007). According to Self-Determination Theory (SDT; Deci & Ryan, 2000), different parenting dimensions vary in the degree to which they hinder or facilitate the satisfaction of children's psychological needs for autonomy, competence, and relatedness. While controlling parenting is said to thwart the child's needs, thereby increasing the risk for maladjustment, autonomy support would foster need satisfaction, thereby contributing to well-being, performance, and social adjustment (Grolnick & Pomerantz, 2009; Joussemet, Landry, & Koestner, 2008; Soenens & Vansteenkiste, 2010). When parents are controlling, they project their standards onto their children and engage in various pressuring behaviors, such as the use of controlling language (e.g., 'must', 'have to'), solving the child's problems, and taking the lead in interactions (Grolnick, Ryan, & Deci, 1991; Joussemet et al., 2008). In contrast, when parents are autonomy-supportive, they work from the child's perspective, thereby offering choice, encouraging children to try and solve problems themselves, and respecting the rhythm of progress of the children (Deci, Eghrari, Patrick, & Leone, 1994; Grolnick, Deci, & Ryan, 1997).

Accumulating evidence confirms the positive effects of autonomy support and the negative effects of parental control on children's development in general (e.g., Soenens & Vansteenkiste, 2010) and in the learning domain in particular, as indicated by children's school achievement (e.g., Su, Doerr, Spinath, Johnson, & Shi, 2014), academic adjustment (e.g., Ahmad, Vansteenkiste, & Soenens, 2013), and quality of study motivation (e.g., Katz et al., 2011). Given the detrimental effects of a controlling

relative to autonomy-supportive parenting style, it is important to gain more insight in its origins.

Three Sources of Pressure on Parents

According to Grolnick (2003), pressure can undermine parents' ability to support their children's needs, much in the same way that pressure, resulting from parents' controlling style, undermines children's learning and well-being. Pressure on parents can stem from three sources, that is, the parents' social environment, the child's behavior and competence level and the parents' personal functioning (Belsky, 1984).

Social pressure to be ego-involved in the child's performance. One type of pressure stems from parents' social environment. Bronfenbrenner (1979) already argued that parents do not rear their children in a social vacuum but are sensitive to the challenges and threats of the different contexts surrounding them. In each of these contexts, ranging from proximal to more distal ones, parents may experience pressure to be a successful parent (Grolnick & Seal, 2008). The social pressure to be a successful parent directs parents to attain specific child outcomes and, as such, increases the likelihood of developing an ego-involved orientation towards the child's performance (Wuyts, Vansteenkiste, Soenens, & Assor, in press). When experiencing such ego-involved pressure, parents focus on enhancing and protecting their own self-worth through their child's performance. In contrast, when parents are task-involved, they focus more on the child's learning process as such and are more likely to get involved in their child's learning out of interest instead of the desire to boost their self-worth.

Previous work among university students has shown that ego-involvement, compared to task-involvement, elicits a more controlling approach towards others (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982). Apparently, the feelings of pressure that arise when individuals' self-worth is implicated in the performance of another person translate into the

use of a more pressuring interpersonal style. Along similar lines, a recent study among parents showed that parents who experience social pressure to rear a successful child are more likely to invest their self-worth in the achievement of their child and, subsequently, to use a more controlling parenting approach over time (Wuyts et al., in press). Yet, to perform a truly causal test of the effects of social pressure (leading to ego-involvement) on parenting, experimental designs are needed. A first step in this direction was taken by Grolnick, Gurland, DeCourney, and Jacob (2002), who examined the effects of experimentally induced ego-involvement on mothers' autonomy support and control, as observed while mothers were working on a map or poem task with their child. Mothers in the ego-involved condition were told that they were responsible for their child's performance and that the child would be tested later on. The experimental induction of parental ego-involvement had a modest effect on some of the autonomy-suppressing maternal behaviors in one of both tasks. Given these modest effects, there is a need to revisit these effects and to examine their interplay with other sources of pressure on parents.

Children's failure to meet performance standards. Pressure on parents can also result from children's failure to perform up to standards in achievement settings. Child's failure is not only potentially painful for the children themselves (e.g., Hilsman & Garber, 1995), but may also be perceived as a threat by their parents. Indeed, some studies have shown that both parents' perception of their child's competence in school (Ng, Pomerantz, & Deng, 2014; Wuyts et al., in press) and their children's objective performance (i.e., their grades; Grolnick et al., 2002; Pomerantz & Eaton, 2001) relate to parents' controlling parenting behavior. Other studies (e.g., Ng, Kenney-Benson, & Pomerantz, 2004), however, failed to confirm these associations. Given these inconsistent findings, more research on the effect of child's failure on parental behavior is needed. The current study is, to the best of our knowledge, among the first to examine whether an experimental induction of child failure affects parents' interaction style.

Parents' own motivational orientations. A third important source of influence on parents' interaction style resides in their own functioning (Belsky, 1984). In the current study, we focused on parents' motivational orientation, which in SDT is referred to as parents' causality orientation. A differentiation is made between a controlled orientation and an autonomous orientation, which represent two distinct and relatively stable ways of self-regulating behavior (Deci & Ryan, 1985). The controlled orientation is characteristic of individuals who regulate their behavior on the basis of internal and external demands and who are sensitive to external expectations and pressures. In contrast, the autonomous orientation involves regulating one's behavior on the basis of self-endorsed values and interests. Highly autonomous people also interpret the environment as providing information relevant to the choices they are making.

Individuals scoring high on the controlled orientation are said to interact in a more defensive way with others because their self-worth is more at stake during such interactions (e.g., Hodgins, Koestner, & Duncan, 1996; Knee, Lonsbary, Canevello, & Patrick, 2005). Correlational research has shown that control-oriented parents interact in a more controlling fashion with their children, an association that was mediated by the parents' tendency to invest their self-esteem in the performance of their child (Wuyts et al., in press). In contrast, undergraduate students scoring high on the autonomy orientation were found to report a higher tendency to support autonomy in children (Deci & Ryan, 1985). However, evidence for the role of motivational orientations in parents' behavior is scarce and is limited to self-report measures. We aim to overcome this limitation in the present study through the use of observational measures.

Examining the Interplay between the Three Sources of Pressure

Although each of the sources of pressure is expected to relate to the use of parental control relative to autonomy support, the interplay between these different sources also deserves attention. Indeed, different risk factors

may reinforce one another, resulting in a cumulative vulnerability for controlling parenting (Belsky, 1984; Grolnick, 2003). For instance, child's failure may result only or more strongly in controlling parenting when combined with social pressure because ego-involved conditions would increase the likelihood that child's failure is perceived as a threat for the parent's self-worth.

Although interactions between the three sources of pressure can be expected, parents' own motivational orientation is the most probable moderator of the effects of the two other sources of pressure (i.e., social pressure and child failure) (for a review see Weinstein & Ryan, 2011). First, autonomy-, compared to control-oriented individuals, are less sensitive to threatening and potentially stressful situations and, instead, are more likely to view such situations as challenges (e.g., Koestner & Zuckerman, 1994). Second, autonomy-, compared to control-oriented, individuals engage in more adaptive coping when confronted with stress, which would buffer against the use of a controlling approach (e.g., Hodgins et al., 2010; Knee, Neighbors, & Vietor, 2001).

There is some indirect evidence for the hypothesized moderating role of parents' motivational orientation. For instance, Grolnick et al. (2002) found that mothers who scored high on a general measure tapping into controlling parenting were more likely to display an autonomy-suppressing style in response to social pressure. A similar effect was documented in Grolnick et al. (2007). While the measure of general controlling parenting could be considered as a proxy for parents' motivational orientation, there is clearly a need to include a more direct measure and to examine more systematically the interplay between parents' motivational orientations and contextual pressures on parents' interaction style.

Broadening the Scope of Outcomes of Pressure on Parents

The present study also aimed to add to the literature by expanding the breadth of outcomes associated with pressures on parents, focusing not

only on parenting behavior but also on parental experiences and on the functioning of the dyad as a whole. As regards parental experiences, we expect that under pressuring conditions, parents will experience elevated levels of tension and fear of the child's failure. Although this hypothesis may seem self-evident at first sight, experimental evidence for this hypothesis has yielded inconsistent effects (Grolnick et al., 2002). Possibly, social pressure results in feelings of tension and fear in some parents but not in others. The interplay with parents' general motivational orientation may again be important in this regard.

Because in family systems theory (Minuchin, 1985), different subsystems in the family (including individuals and dyads) are said to reciprocally influence one another, we also included a number of dyadic outcomes. Parents' and children's joint performance during a performance activity was considered a first dyadic outcome. There is some initial evidence for the impact of experimentally induced autonomy versus pressure on the performance of student (Weinstein, Hodgins, & Ryan, 2010) and parent-child dyads (Grolnick et al., 2002). Further, we also included qualitative outcomes of dyadic functioning, such as parents' and children's task engagement and the dyad's reciprocity, which both have been found to yield important learning and well-being benefits (e.g., Weinstein et al., 2010). Consistent with past work (e.g., Sansone, Weir, Harpster, & Morgan, 1992), we reasoned that parents and children are less likely to engage in the task fully and effectively under pressuring conditions. Further, the encountered sources of pressure may also affect dyadic reciprocity, which manifests in lack of behavioral attunement as indexed by leaning towards each other, joint laughter, and behavioral synchronicity (Weinstein et al., 2010).

Finally, we investigated the effects of pressure on parents' and children's persistence, thereby making use of the standard free-choice paradigm (Deci, 1972). Using this paradigm, persistence was operationalized as the dyad's continued participation in the task during a free-choice period

after the termination of the experimental phase, with participants being unaware that their behavior is recorded. In addition, we took into account the quality of persistence, which was operationalized as the degree to which the dyad's duration of behavioral persistence covaries with the degree of engagement displayed by the members of the dyad (Ryan, Koestner, & Deci, 1991).

The Present Study

In this study we examined effects of three sources of influence on (a) parents' use of a controlling style, (b) parents' experiences, and (c) several features of parent-child dyadic functioning. In addition to parents' own self-reported autonomous and controlled orientations, we experimentally manipulated social pressure by inducing parental ego-involvement (versus task-involvement) and the child's achievement by varying the standards for the child's performance on a task (i.e., low relative to high). Following the experimental instructions parents worked together with their child on a puzzle task. Parents reported about their experienced tension and fear of the child's failure during the puzzle activity. Parent-child dyads were videotaped while working on a 10-minute puzzle task (i.e., the experimental phase), followed by a 5-minute phase in which free-choice behavior was registered (i.e., the free-choice phase). The interactions during both phases were rated using a detailed coding scheme, thereby tapping into parents' controlling (relative to autonomy-supportive) practices, dyadic reciprocity, parents' and children's engagement, and the dyad's performance. Dyads' duration and quality of persistence were registered in the free-choice period.

Our first aim was to examine whether the two experimentally activated pressures would yield an independent and interactive contribution on the self-reported and observed variables in both the experimental and free-choice phase. Specifically, we hypothesized that under induced parental ego-involvement (Hypothesis 1) and induced child failure (Hypothesis 2) parents would report more tension and fear of the child's failure, would

engage in a more controlling interaction style, and dyads would display less reciprocity, less engagement, lower performance, and a lower degree and quality of persistence. Additionally, we explored the interplay of both manipulated pressures on the self-reported and observed variables.

Our second aim involved the examination of the effect of parents' motivational orientations on the assessed outcomes as well as their interplay with the two experimentally activated pressures. We hypothesized that control-oriented parents would report higher levels of tension and fear of the child's failure and would display a more controlling interaction style. Furthermore, we also expected control-oriented parents to display less dyadic reciprocity, less engagement, lower performance, and lower degree and quality of persistence. The opposite pattern of associations was expected for the autonomous-oriented parents (Hypothesis 3). Next, parents' controlled orientation was hypothesized to increase parents' susceptibility to the hypothesized negative consequences of induced pressure, whereas parents' autonomous orientation would instead serve as a buffer (Hypothesis 4).

Our final aim involved the test of an integrated model in which the three sources of pressure were modelled as unique predictors of parents' observed controlling parenting practices which, in turn, would relate to the dyadic outcomes. Specifically, we expected the three sources of pressure to relate to lower dyadic reciprocity, engagement, and decreased task-performance via their effects on the parents' controlling interaction style. Two such integrated models were examined; one for the experimental phase and one for the free-choice phase (Hypothesis 5).

Method

Participants

124 parents and their 5th and 6th grade elementary school children participated in the study. On average children were 11.19 years old (*SD* = .65; *range* 9-13; 53% boys). From the 124 parents, 104 were mothers (84%)

and 20 were fathers (16%). On average, parents were 41.05 years old (*SD* = 3.77; *range* 32-51). Seventy-one percent of the parents reported to be married or living together with the other biological parent of the child.

Recruitment and Initial Survey

The procedures followed during all phases of the study were approved by the Ethical Committee of Ghent University. Dyads were recruited by contacting three rural (36%) and three urban (64%) elementary schools in Belgium. Data collection proceeded in two steps. First, each child received a package for their parents, containing a detailed invitation letter and a questionnaire to measure parents' motivational orientations. The first page of the instruction sheet emphasized that participation was voluntary and that confidentiality was guaranteed. Parents returned the questionnaire with their child in a sealed envelope.

Two months later, children were informed about the project in their classroom groups. Specifically, the project was introduced as a study that focused on 'how parents and children work together on schoolwork'. All children were provided with an information sheet for their parents, which described the project in greater detail. Thirty-two percent of all invited parents responded with interest in participating by returning the permission slips with their children. Participants were contacted and an appointment was scheduled. The response rate of 32% is comparable with similar experimental studies in which both parents and their children participated (e.g. Grolnick et al., 2007).

When the second phase of the study was introduced, no reference was made to the first phase as to avoid contamination. At the end of the entire study, that is, during the debriefing, parents and their children were informed about the link between the two projects. After parents had indicated that they participated during the first phase, they were asked for permission to merge the provided information of both phases. All parents participating during the second phase granted permission to do so. Of the

124 parents only 19 did not participate in the first phase, resulting in 105 dyads with complete data.

Procedure

Experimental phase. One-hundred twenty-four parent-child dyads participated in the experiment, which took place after school hours in an ecologically valid context, that is, the child's regular classroom. Upon arrival parents and children were informed that they would work together on a puzzle task. The puzzle task was a mind game (i.e., GoGetter Prince & Dragon) in which participants needed to lay the puzzle pieces in a prescribed way to connect two or more fantasy figures. Yet, there were also built-in restrictions regarding the exact route the participants could follow (Peeters, 1999). Pilot testing had pointed out that children found this task to be highly interesting. Parent-child dyads were informed that they would be videotaped while working together on the puzzle tasks because the experimenter would leave the room so they would not be disturbed by her presence. After the parent had signed the informed consent, the child was asked to leave the classroom because the rules of the game would be explained to the parent in private. Parents were then explained the rules of the puzzle activity in detail and were allowed to practice one puzzle themselves to ensure that they understood the rules. Any remaining questions were addressed.

Directly following the explanation of the puzzle activity parents were given condition-consistent instructions. Four conditions were created by combining two manipulated variables, that is, (a) the type of induced parental involvement in the child's learning activity, representing parental ego-involvement versus task-involvement and (b) the difference in performance standards to engender failure or success experiences s. To activate ego-involvement, parents were made accountable for the child's performance during the puzzling task (Deci et al., 1982). This was done by relying on controlling language and by presenting the puzzle task as being reflective of children's logical intelligence. In contrast, parents in the task-

involvement condition were informed that there exist inter-individual differences in the number of puzzles children solve and the parents' attention was oriented towards helping the child in solving the puzzle activity and having fun when working together on the puzzles, thereby making use of inviting and informational language.

Experiences of failure (versus success) were experimentally manipulated by providing low (versus high) standards for performance, without parents being aware of these differential standards. All parents were told how many puzzles an average child can solve within a 10-minute period. However, half of the parents were provided with an unachievable standard and half of the parents were provided with a standard that could easily be met by all children. Pilot testing (N = 17, 5th and 6th grade children) had revealed that children on average solve 4.5 puzzles (*range* = 3-6) within the allotted period of ten minutes. Accordingly, half of the parents were told that children are typically capable of solving eight puzzles (i.e., a high performance norm leading to child failure), whereas the other half of the parents were told that children typically solve three puzzles (i.e., a low performance norm leading to child success). Below the exact instructions provided in the two most extreme conditions, i.e. the ego-involvement – failure versus the task-involvement – success conditions are provided.

Parental ego-involvement - failure condition:

> "I just explained to you the rules of the puzzle activity you are about to begin with your child. These puzzles are reflective of your child's intelligence. More specifically, they assess your child's ability to think in a logical way. *Based on previous research, we know that children in 5th and 6th grade typically finish 8 puzzles within a period of ten minutes. This means that a child needs about 1 minute to solve each puzzle*. We expect children who perform high on logic thinking to finish all the given puzzles. They probably also manage to do some extra puzzles. Your role is to guide your child while working

> on the puzzles. You must make sure that your child learns to solve the puzzles in order to perform well."

Parental task-involvement – success condition:

> "I just explained to you the rules of the puzzle activity you are about to begin with your child. These puzzle tasks can inform us about how children manage to solve problems in different ways. *Based on previous research, we know that children from 5th and 6th grade typically finish 3 puzzles within a period of ten minutes. This means that a child needs about 3 minutes to solve each puzzle*. We understand that children, due to their previous experiences with such tasks and depending on how tired they are, differ in how many tasks they solve. Your role is to guide your child while working on the puzzles. You can help your child with the puzzles. In doing so your child can learn something while experience pleasure when working on the puzzles with you."

Following these manipulated instructions, parents were asked to explain the rules of the puzzle activity to the child. Before inviting the child to reenter the room, the experimenter activated the camera so that the interaction could be videotaped. Upon arrival of the child, the experimenter left the room and the parent explained the overall purpose and specific rules of the puzzle activity and informed the child that they had ten minutes time to work on the puzzles. Then, the parent started a timer, which was set to ring after ten minutes and the child began to solve the first puzzle. Every parent-child dyad was provided the same set of puzzles. Yet, the way these puzzles were presented varied as function of condition assignment. To reinforce the manipulation of the provided norms, parent-child dyads read on an information sheet that the activity consisted of either 8 (i.e., high norm) or 3 (i.e., low norm) puzzles and were all provided with 4 additional puzzles that could be solved in case they would have time left. Parent-child dyads worked uninterruptedly at the activity until the clock indicated that the allotted ten minutes had passed.

Free-choice phase. After these ten minutes the experimenter re-entered the room, pretended to switch off the camera, and gave condition-congruent feedback on the performance to the mother and the child. Next, the experimenter removed the puzzles the dyad had been working on as to avoid the occurrence of the Zeigarnik-effect (i.e., working further on the puzzles of the experimental fase out of motivation to reengage unfinished, interrupted activities; Reeve, Cole, & Olson, 1986). At that point, the experimenter excused herself for two minutes, thereby pretending that she had received an urgent phone call concerning an administrative problem. Consistent with the free-choice paradigm often used in experimental motivational work (Deci, Koestner, & Ryan, 1999), the parent-child dyad was left alone for exactly 5 minutes with (a) two new and highly challenging puzzles, and (b) some popular magazines for adults and some popular comics for children. Before leaving the room, the experimenter told the dyads that they could do whatever they wanted to, that is, they could continue to work on the puzzle activity or instead read some magazines or comics (Ryan et al., 1991). Although the experimenter had pretended to have switched off the camera, this was not the case, thus ensuring the registration of dyads' continued engagement with the puzzles during this 5-minute free-choice phase. Unfortunately, for two dyads this procedure failed, resulting in only 122 parent-child dyads being videotaped during this free-choice period.

After five minutes, the experimenter re-entered the room and asked parents to fill out a questionnaire regarding their experiences during the puzzle activity. Finally, before leaving the room, both parents and children were debriefed about the real purpose of the study. The experimenter explained to the dyads that the puzzle task was not designed to measure logical thinking and that the provided norms were intended to induce either failure or success experiences. Furthermore, parent-child dyads were informed about the real purpose of the free-choice phase and were given the possibility to erase the videotape of the interaction upon request. None of the participants insisted doing so.

Measures

Pre-experimental measures.

Motivational orientations. Two months prior to their actual participation in the experiment, parents filled out the Dutch version (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005) of the General Causality Orientations Scale (GCOS; Deci & Ryan, 1985), which measures parents' global autonomous and controlled motivational orientation. The questionnaire consists of 12 vignettes, each representing a situation in daily life (e.g., "You had a job interview several weeks ago. In the mail you received a form letter which states that the position has been filled. It is likely that you might think…"), followed by items reflecting the two different motivational orientations. An example item for the autonomous orientation reads: "Somehow they didn't see my qualifications as matching their needs". An example of the controlled orientation reads: "It's not what you know, but who you know.". Parents rated both the items tapping into the autonomous and the controlled orientation and rated them separately on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Information about the psychometrics and validity of this scale is presented in Deci and Ryan (1985). Scale scores were computed by taking the mean of the scale items. Cronbach's alpha were .70 for the autonomous orientation and .66 for the controlled orientation. Descriptive statistics of the study variables can be found in Table 1.

Post-experimental measures.

Manipulation check. To evaluate the effectiveness of the manipulations, parents completed two measures. First, with respect to the type of induced involvement, parents rated six slightly adapted items derived from the Child-invested Contingent Self-esteem Scale (Wuyts et al., in press; e.g., "To what extent did you thought that a failure of your child on the puzzle task implicated your failure as parent.") to examine the extent to which parents' self-worth was dependent upon children's achievement in the puzzle activity. All items were rated on a 5-point Likert scale (1 = *not at all,*

Table 1

Descriptive Statistics and Correlations Between Parents' Orientations and Variables of the Experimental and the Free-choice Phase

		Mean (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Parent-reported measures																		
1.	Autonomous orientation	4.26 (0.40)	-															
2.	Controlled orientation	2.32 (0.46)	-.15	-														
3.	Tension	1.74 (0.85)	-.26**	.08	-													
4.	Fear of child's failure	1.80 (0.74)	-.16	.15	.30***	-												
Observed variables: Experimental phase																		
5.	Control vs. autonomy-support	2.55 (0.41)	-.25*	.21*	.08	.25**	-											
6.	Dyadic reciprocity	2.22 (0.51)	.16	.00	-.02	-.12	-.43***	-										
7.	Parental engagement	4.66 (0.24)	.28**	-.11	-.18*	-.06	-.36***	.52***	-									
8.	Child engagement	4.63 (0.27)	.22*	-.18	-.13	-.05	-.49***	.50***	.56***	-								
9.	Number of puzzles assembled	4.24 (1.50)	.04	.14	-.05	.10	.15	-.19*	.00	.19*	-							
10.	Number of puzzle mistakes	2.01 (1.76)	-.01	.17	.07	.13	.27**	-.18*	-.09	-.04	.66***	-						
11.	Puzzle efficiency	0.74 (0.22)	.02	-.19	.00	-.08	-.36***	.23*	.09	.16	-.34***	-.75***	-					
Observed variables: Free choice phase																		
12.	Duration of free-choice behavior	0.71 (0.39)	.01	.07	-.03	-.06	-.04	.05	.10	.03	-.06	.08	-.10	-				
13.	Control vs. autonomy-support	1.77 (1.11)	-.16	.00	-.01	.10	.39***	-.14	-.09	-.18	-.13	-.05	-.13	-.04	-			
14.	Dyadic reciprocity	2.49 (1.08)	.03	-.02	-.05	-.05	-.14	.12	.14	.09	-.21*	-.29**	.29**	.04	-.33**	-		
15.	Parental engagement	4.73 (0.63)	.18	-.10	-.09	-.07	-.14	.20	.33**	.12	-.04	-.12	.20+	.31**	-.32**	.40***	-	
16.	Child engagement	4.82 (0.58)	-.11	.15	-.09	-.07	-.08	.07	.10	.17	.17	.07	.03	.38**	-.57***	.28**	.26*	-

*$p < .05$ **$p < .01$***$p < .001$

5 = *very much*). Cronbach's α of this scale was .82. Second, with respect to the type of induced performance standard, parents indicated how many puzzles children of the 5th and 6th grade typically are able of solving in ten minutes.

Parent-reported experiences. To measure parents' tension experienced during the puzzle activity, they completed four items derived from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Participants reported how tense (e.g., nervous, stressed) they felt after receiving the task instructions (i.e., the manipulation). To measure parents' fear of the child's failure, they filled out 4 items developed specifically for the purpose of this study (e.g., "I felt worried that my child would perform worse than other children."). All items were rated on a 5-point Likert scale (1 = *totally disagree*, 5 = *totally agree*). Cronbach's α were .87 and .74 for tension and fear of child's failure, respectively.

Observed behavior. All parent-child interactions during both the experimental and free-choice phase were videotaped and rated using a detailed coding scheme. The experimental phase was broken down into (a) a rule-explanation phase of variable length in which parents explained the puzzle rules and (b) a puzzle-solving phase of ten minutes, which was broken down into five 2-minute intervals. Following Mauras et al. (2012), we used units of 2-minutes to rate the interaction during the puzzle phase. The 5-minute free-choice phase was broken down into three equal intervals of 100 seconds. Parent-child interactions during these intervals were only coded when the dyad worked on the free-choice puzzles for at least one third of the interval. Within each of the intervals, several constructs were rated on a 5-point Likert scale ranging from 0 (*totally absent*) to 5 (*strongly present*).

One rater scored all 124 videotapes of the experimental phase and a second rater scored all 122 videotapes of the free-choice phase. For the first 20 videos, which were randomly selected from the available 124 and 122 tapes, a third rater scored the videotapes together with the other raters. After coding each interval, they discussed disagreements until consensus was

reached. Next, both raters scored 21 additional randomly chosen videotapes independently. Below, the inter-rater reliability scores for the 21 independently rated tapes are presented.

Observed parental control relative to autonomy support. We developed a new, multi-item coding system to code observed control relative to autonomy support during the experimental phase. Some of the items of this coding system were taken and adapted from previously used rating systems in different life domains (Deci, Driver, Hotchkiss, Robbins, & Wilson, 1993; Deci et al., 1982; Grolnick et al., 2002), while other items were newly formulated after having viewed the first five videotapes. All items were formulated with specific reference to the theme of parent-child interaction in the context of puzzling together. The final coding scheme consisted of 10 items, 5 of which tapped into controlling behaviors (i.e., taking over the puzzle, controlling language, increasing the pace, continuous and unsolicited guidance, and guilt-induction / criticizing) and 5 of which tapped into autonomy-supportive behaviors (i.e., taking perspective and interest, encouraging active participation, providing rationale, granting freedom, and process praise / encouragement). An exploratory factor analysis using Principal Axis Factoring was performed on these items. The scree-plot pointed to a one-factor solution, with an eigenvalue of 4.32. All items had a minimal loading of .39 and the factor solution explained 43% of the variance. All controlling items yielded a positive loading, while all autonomy-supportive items yielded a negative loading. To create a composite score of observed controlling, relative to autonomy-supportive, parental practices we averaged all items, thereby reverse coding the autonomy-supportive items. The inter-rater intra-class correlation of the total score was .91. Cronbach's α was .84. To further examine the validity of this composite score we computed correlations with two separate items coding generally controlling and generally autonomy-supportive style in each interval. As expected, these two general items were correlated highly positively ($r(124) = .88$, $p < .001$) and negatively ($r(124) = -.89$, $p < .001$),

respectively, with the composite score of observed control, relative to autonomy support.

To observe parental control, relative to autonomy support, during the free-choice phase, we evaluated each interval only for general control and general autonomy support making use of the global items to tap into autonomy support and control. This was deemed sufficient as these global items scores yielded a very strong correlation with the specific behavioral autonomy-supportive and controlling practices as rated during the experimental phase. To create a composite score of observed controlling, relative to autonomy-supportive, parental practices, we averaged the general controlling items with the reverse coding of the general autonomy-supportive items. The inter-rater intra-class correlation of the total score was .78. Cronbach's α was .72.

Observed dyadic reciprocity. To observe reciprocity of the parent-child dyads during the experimental and free-choice period, we used a three-item measure developed by Weinstein et al. (2010; Study 2). This measure taps into the frequency of leaning forward, behavioral synchronicity (e.g., mimicking each other's non-verbal behavior), and joint laughter. While Cronbach's α was satisfactory in the experimental phase (i.e., .65), the item 'joint laughter' needed to be removed from the scale in the free-choice period to obtain an adequate α of .73. The inter-rater intra-class correlations of the scale were .80 and .83 for, respectively, the experimental and free-choice period.

Observed parental and child engagement. Inspired by previous observational measures of engagement (Reeve, Jang, Carrell, Jeon, & Barch, 2004), we used three items (i.e., experienced pleasure, effort, and eagerness) to tap into both parents' and children's engagement during both phases. In addition, we also rated their observed disengagement from the task, as indicated by three items (i.e., inattention, discouragement, and irritation). A composite score of observed engagement was created by averaging all items after having reverse coded the disengagement items. The inter-rater intra-

class correlations were .82 and .95 for the parental ratings and .82 and .70 for the child ratings during, respectively, the experimental and free-choice period. Cronbach's α were .75 and .84 for the parental ratings and .76 and .82 for the child ratings during, respectively, the experimental and free-choice period.

Task Performance. To measure task performance, three different indicators were used. First, the number of puzzles assembled by each dyad during the 10-minute puzzle phase was registered. Second, because dyads could mistakenly conclude that they had correctly solved a puzzle, we also registered the number of mistakes dyads made while working on the puzzles. Third, a relative score of puzzle efficiency was created by dividing the number of correctly solved puzzles, by the number of puzzles assembled by each dyad (see also Sheldon, Zhaoyang, & Williams, 2013). The inter-rater intra-class correlations were, respectively, .96 and .97 for the number of puzzles assembled and the number of mistakes made.

Duration of free-choice behavior. We measured how long each parent-child dyad worked on the new puzzles during the 5-minute free-choice phase. To obtain an adequate measure for the analysis, for each dyad, we computed a quotient of the duration of free-choice behavior occurred on the total time of the available free-choice time. Scores ranged from .00 (for dyads who did not show any free-choice behavior) to 1.00 (for dyads who persisted during the whole free-choice phase). In total, 99 dyads displayed some free-choice behavior during the free-choice phase, with these 99 dyads persisting 87% (*SD* = 0.21) of the 5-minute free-choice phase. The inter-rater intra-class correlation was .98.

Results

Plan of Analysis

First, to investigate the effects of the manipulated variables (Hypotheses 1 and 2), we conducted two sets of analysis of variance (ANOVA's), with the first set involving the dependent measures obtained

during the experimental period and with the second set involving the dependent measures of the free-choice period. For each analysis, type of involvement (i.e., task versus ego) and type of performance standards (resulting in failure versus success) were entered as independent variables, and the self-reported and/or observed variables were entered as dependent variables. To investigate effect size of the experimentally induced pressures on the different outcomes we inspected the effect size computed as partial eta-squared values. According to Cohen (1992), a partial eta-square of 0.01 represents a small effect, 0.06 represent a medium effect, and 0.14 represents a large effect in an ANOVA.

Second, to examine the quality of the displayed free-choice behavior, we computed within-condition zero-order correlations between the duration of free-choice behavior and the observed parental and child engagement during the free-choice period (see Deci et al., 1994; Vansteenkiste, Simons, Soenens, & Lens, 2004). To examine whether the quality of the free-choice behavior differed between the conditions, Fischer *z*-tests were performed. In doing these analyses, we considered only dyads (n = 99) who displayed some free-choice behavior during the free-choice phase (i.e., only dyads with duration of free-choice behavior greater than zero).

Third, to investigate the contribution of parents' motivational orientations (Hypothesis 3) and their interaction with the manipulated variables (Hypothesis 4), we performed a series of multiple regression analyses. Each dependent variable was regressed on the two motivational orientations, the two experimental inductions, and the interaction between the motivational orientations and the manipulated variables. Independent variables were standardized and interactions were computed by multiplying standardized scores (Aiken & West, 1991). These analyses were performed only with the subsample of dyads in which the parents had filled out the GCOS prior to the experiment (n = 105).

Finally, to address Hypothesis 5, we tested two integrated models (i.e., one for the experimental phase and one for the free-choice phase), in

which parents' controlled orientation in conjunction with the manipulated variables were entered as predictors of observed parental control (relative to autonomy support) which, in turn, was entered as predictor of all the dyadic outcomes (observed dyadic reciprocity, observed child and parent engagement, and puzzle efficiency, with the later variable being included only in the experimental phase). To estimate our hypothesized models we performed Structural Equation Modeling (SEM) analyses with manifest variables using MPlus 6 software with robust maximum likelihood estimation (Muthén & Muthén, 2010). We inspected the comparative fit index (CFI), the root-mean-square residual (RMSEA), and the standardized root-mean-square residual (SRMR). Values lower or close to .06 for RMSEA and .09 for SRMR and values of .95 or higher for CFI reflect adequate fit (Hu & Bentler, 1999).

Preliminary Analyses

Background variables. We first conducted a multivariate analysis of covariance to explore whether background variables were associated with the study variables. None of the background variables had a significant multivariate effect on the study variables, child gender (Wilks' Lambda = .75, $F(16, 51) = 1.09$, $p = .387$), child age (Wilks' Lambda = .77, $F(16, 51) = 0.95$, $p = .517$), parental gender (Wilks' Lambda = .83, $F(16, 51) = 0.68$, $p = .801$), parental age (Wilks' Lambda = . 80, $F(16, 51) = 0.78$, $p = .705$), parental educational level (Wilks' Lambda = .78, $F(16, 51) = 0.88$, $p = .593$), and family structure (Wilks' Lambda = .80, $F(16, 51) = 0.78$, $p = .696$).

Manipulation check. To examine whether the manipulations were effective, we conducted a multivariate analysis of variance (MANOVA). As expected, the involvement manipulation only yielded a univariate significant effect on parents' experienced ego-involvement during the puzzle activity ($F(1, 115) = 6.75$, $p = .011$, $\eta^2 = .055$) with parents in the ego-involvement condition reporting being more ego-involved ($M = 2.21$, $SD = 0.64$), compared to participants in the task-involvement condition ($M = 1.91$, $SD =$

0.64). Furthermore, the performance standard manipulation yielded a significant effect on the perception of puzzle norms ($F(1, 115) = 180.62$, $p = .000$, $\eta^2 = .611$), with parents in the high norm (failure) condition ($M = 6.53$, $SD = 1.60$) reporting significantly higher puzzle norms than parents in the low norm (success) condition ($M = 3.40$, $SD = 0.78$).

Randomization. Participants were randomly assigned to the conditions, with the number of participants per condition varying between 29 and 33. We performed a MANOVA with the two manipulations as fixed factors and with parents' motivational orientations (i.e., autonomous and controlled orientation), child age, parental age, and parental education level as dependent variables. Neither the parental involvement manipulation (Wilks' Lambda = .97, $F(5, 92) = 0.64$, $p = .67$), nor the performance standard manipulation (Wilks' Lambda = .91, $F(5, 92) = 1.85$, $p = .11$) yielded an effect on the background variables nor on parents' motivational orientations. Further, two chi-square tests indicated that child gender (Pearson $X^2(1, 124) = 0.00$, $p = 1.00$, Pearson $X^2(1, 124) = 0.88$, $p = .349$) and parental gender (Pearson $X^2(1, 124) = 0.00$, $p = 1.00$, Pearson $X^2(1, 124) = 0.06$, $p = .813$) were equally distributed across the four conditions. To conclude, the randomization across conditions was successful.

Correlations. Correlations between the study variables can be found in Table 1.

Primary Analysis

Hypothesis 1 and 2: Effects of induced pressures. The means and standard deviations of the parent-reported and observed variables together with the main effects of the two manipulated variables can be found in Table 2 (experimental phase) and Table 3 (free-choice period). For the parent-reported outcomes, both manipulations yielded a main effect on parental tension and fear of the child's failure (see Table 2). As hypothesized, parents in the ego-involvement and high norm (failure) condition reported more tension and fear of the child's failure. Yet, for reported tension also an

Table 2

Cell Means and Standard Deviations for the Four Experimental Conditions Together With the Involvement and the Performance Standard Manipulation Effects on Parental Experiences, Interaction Quality, and Performance During the Experimental Phase

	Task-involvement		Ego-involvement		Involvement manipulation			Performance standard manipulation		
	Low norm	High norm	Low norm	High norm	$F(1,120)$	p	η^2_p	$F(1,120)$	p	η^2_p
Parent-reported measures										
Tension	1.53 (0.66)	1.63 (0.84)	1.52 (0.70)	2.25 (0.96)	**4.36**	**.039**	**.036**	**8.27**	**.005**	**.065**
Fear of child's failure	1.52 (0.59)	1.74 (0.64)	1.78 (0.82)	2.14 (0.78)	**6.69**	**.011**	**.053**	**5.10**	**.026**	**.041**
Observed variables										
Control vs. autonomy-support	2.36 (0.38)	2.61 (0.35)	2.54 (0.37)	2.70 (0.47)	3.50	.064	.028	**8.16**	**.005**	**.064**
Dyadic reciprocity	2.31 (0.57)	2.27 (0.50)	2.15 (0.51)	2.14 (0.45)	2.51	.116	.021	0.09	.766	.001
Parental engagement	4.71 (0.26)	4.65 (0.25)	4.65 (0.19)	4.63 (0.27)	0.87	.354	.007	0.72	.387	.006
Child engagement	4.73 (0.33)	4.60 (0.24)	4.60 (0.23)	4.61 (0.28)	1.31	.255	.011	1.60	.208	.013
Performance measures										
Number of puzzles assembled	3.93 (1.41)	4.88 (1.81)	3.83 (1.17)	4.26 (1.37)	1.88	.173	.015	**6.78**	**.010**	**.053**
Number of puzzle mistakes	1.63 (1.40)	2.69 (2.15)	1.52 (1.40)	2.12 (1.75)	1.23	.271	.010	**7.23**	**.008**	**.057**
Puzzle efficiency	0.79 (0.22)	0.68 (0.22)	0.79 (0.20)	0.73 (0.23)	0.16	.691	.001	**4.24**	**.042**	**.034**

interaction effect emerged ($F(1, 120) = 4.57$, $p = .035$, $\eta^2 = .037$). As can be seen in Figure 1, only parents in the ego-involvement condition were susceptible to induction of child failure ($F(1, 58) = 11.09$, $p = .002$, $\eta^2 = .161$). Parents in the task-involvement condition did not differ in terms of tension between the failure and success conditions ($F(1, 60) = 0.31$, $p = .579$, $\eta^2 = .005$).

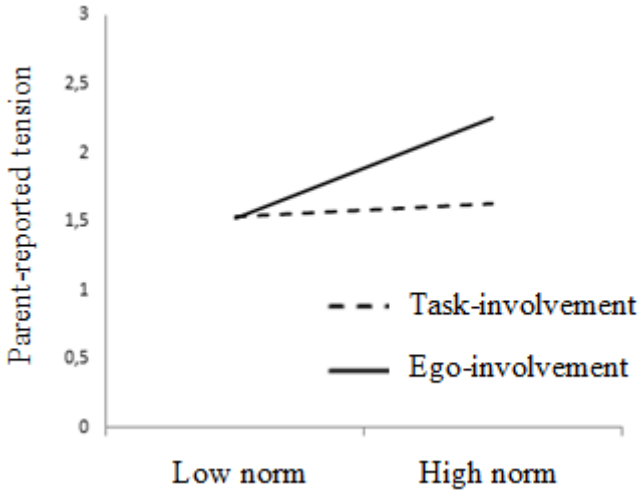

Figure 1. Interaction between involvement and performance standard manipulation on parent-reported tension.

For the observed measures, type of induced involvement yielded a main effect on observed control relative to autonomy support during the free-choice phase, while type of provided performance standards predicted observed control relative to autonomy support during the experimental phase. As hypothesized, parents in the ego-involvement and high norm (failure) condition were more controlling (relative to autonomy-supportive). None of the qualitative outcomes of dyadic functioning (i.e., dyadic reciprocity, parental engagement, child engagement) during both phases were directly impacted by the manipulation. However, as will be discussed in greater detail below, these outcomes were influenced indirectly via the observed interaction style of the parent.

Table 3

Cell Means and Standard Deviations for the Four Experimental Conditions Together With the Involvement and the Performance Standard Manipulation Effects on Duration of Free-Choice Behavior and Interaction Quality During the Free-Choice Phase

	Task-involvement		Ego-involvement		Involvement manipulation			Performance standard manipulation		
	Low norm	High norm	Low norm	High norm	$F(1,95)$	p	η^2_p	$F(1,95)$	p	η^2_p
Duration of free-choice behavior	0.90 (0.19)	0.87 (0.23)	0.81 (0.23)	0.91 (0.18)	0.20	.654	.002	0.64	.425	.007
Control vs. autonomy support	1.43 (0.97)	1.53 (0.79)	1.95 (1.11)	2.13 (1.39)	**6.28**	**.014**	**.064**	0.39	.534	.004
Dyadic reciprocity	2.79 (1.12)	2.56 (0.98)	2.20 (1.09)	2.42 (1.11)	2.84	.095	.030	0.00	.978	.000
Parental engagement	4.87 (0.69)	4.62 (0.72)	4.70 (0.65)	4.75 (0.44)	0.03	.861	.000	0.56	.458	.006
Child engagement	4.96 (0.57)	4.90 (0.52)	4.66 (0.64)	4.78 (0.60)	3.15	.079	.033	0.07	.795	.001

As regards the performance indicators, the induction of performance standards but not the type of involvement manipulation yielded a main effect on all indicators of performance. Specifically, when a high norm was provided (resulting in child failure), dyads assembled more puzzles, but also made more mistakes, presumably because they were rushing through the puzzles, thereby resulting in a lower puzzle efficiency.

Finally, as can be seen in Table 3, the duration of free-choice behavior did not vary between the different conditions. Yet, the quality of free-choice behavior did vary according to type of induced involvement (but not according to the type of provided norms). As can be noticed in Table 4, the within-condition correlations between the duration of free-choice behavior and both parent and child engagement were significant under task-involving but non-significant under ego-involving circumstances. Fisher *z*-testing indicated that these within-condition correlations differed significantly between both conditions. Said differently, although the dyads did not display any greater degree of persistence as a function of the type of induced involvement, the quality of their persistence did differ. The degree of persistence behavior was more congruent with the observed engagement of both the parent and the child when parents had received task-involved rather than ego-involved instructions.

Hypothesis 3 and 4: Effects of parents' motivational orientations. A main effect of parents' autonomous orientation emerged on parent-reported tension (β = -.23, p = .023). As hypothesized, parents high on autonomous orientation reported less tension. Yet, the main effect of parents' autonomous orientation on their reported level of tension was qualified by an interaction with the induction of performance standards, (β = -.20, p = .032). As can be seen in Figure 2, only parents scoring low on the autonomous orientation (based on a median split) were susceptible to the performance standard induction ($F(1, 43) = 4.39$, p = .042, η^2 = .093). Parents scoring high on the autonomous orientation did not report any different degree of tension in the low norm (success) compared to the high

Table 4

Within-condition Correlations for the Involvement and Performance Standard Manipulation Between Duration of Free-choice Behavior and Observed Engagement for Parents and Children During the Free-choice Phase

	Task-involvement condition	Ego-involvement condition	Δz	*p* (one-tailed)
Observed engagement parent	**.56*** **	.01	**2.97**	**.001**
Observed engagement child	**.55*** **	.23	**1.83**	**.033**
	Low norm condition	High norm condition	Δz	*p*
Observed engagement parent	**.33***	**.31***	0.11	.457
Observed engagement child	**.35***	**.43****	0.45	.326

*$p < .05$ **$p < .01$ ***$p < .001$

norm (failure), condition ($F(1, 56) = 0.34$, $p = .565$, $\eta^2 = .006$). No effects were observed for fear of the child's failure.

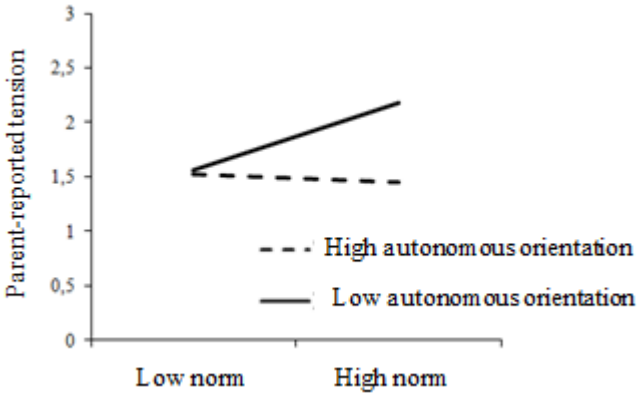

Figure 2. Interaction between parents' autonomous orientation and performance standard manipulation on parent-reported tension.

For the observed measures, parents' controlled orientation yielded a significant main effect on observed parental control relative to autonomy support in the experimental phase ($\beta = .21$, $p = .027$). As hypothesized, parents high on controlled orientation were observed to be more controlling relative to autonomy-supportive. Further, parents' autonomy orientation yielded a main effect on observed parental ($\beta = .29$, $p = .006$) and child ($\beta = .25$, $p = .018$) engagement during the experimental phase. Parents high on autonomous orientation were more engaged in the puzzles, and even their children were observed to be more engaged in the activity. No direct effects of parents' motivational orientation were detected for dyadic reciprocity or for performance.

Hypothesis 5: Integrated model. Induced performance standards as well as parents' controlled orientation predicted parents observed controlling relative to autonomy-supportive practices during the experimental phase. Yet, in the free-choice phase only the effect of the involvement manipulation was significant for observed parental control. Further, we found significant correlations between observed parental control and (a) observed dyadic

reciprocity, (b) observed parental engagement, and (c) observed child engagement during both the experimental as the free-choice phase. During the experimental phase we also registered (d) puzzle efficiency, which was positively associated with observed parental control. We integrated these findings in one model for the experimental phase and one model for the free-choice phase separately.

As shown in Figure 3 (first coefficients shown), for the experimental phase model (SBS-$\chi^2(12) = 10.51$; $p = .571$, RMSEA = .00, CFI = 1.00, SRMR = .04) all estimated paths were significant, except for the path from the involvement manipulation to observed parental control relative to autonomy support. According to a Sobel (1982) test for indirect relations, the indirect associations from the performance standards manipulation and from controlled orientation to all the outcomes (a-d) through observed parental control were significant (ps < .05), except for the indirect relation between controlled orientation and puzzle efficiency which only yielded a marginal significant effect through observed control ($p = .067$). Further, the model fit could not be improved by adding the initially direct path from the performance standards manipulation to puzzle efficiency, ΔSBS-$\chi^2(1) = 2.17$, $p = .140$, indicating that this effect was fully mediated by observed parental control.

For the free-choice phase model (SBS-$\chi^2(9) = 11.79$; $p = .226$, RMSEA = .06, CFI = .95, SRMR = .06; see Figure 3, second coefficients shown) we found a reversed pattern of associations on the antecedents' side, as only the involvement manipulation yielded a significant association with observed parental control. Again we conducted a Sobel (1982) test. This test revealed significant indirect associations from the involvement manipulation to the outcomes (a-c) through observed parental control, although for observed dyadic reciprocity this indirect effect did not reach significance ($p = .125$).

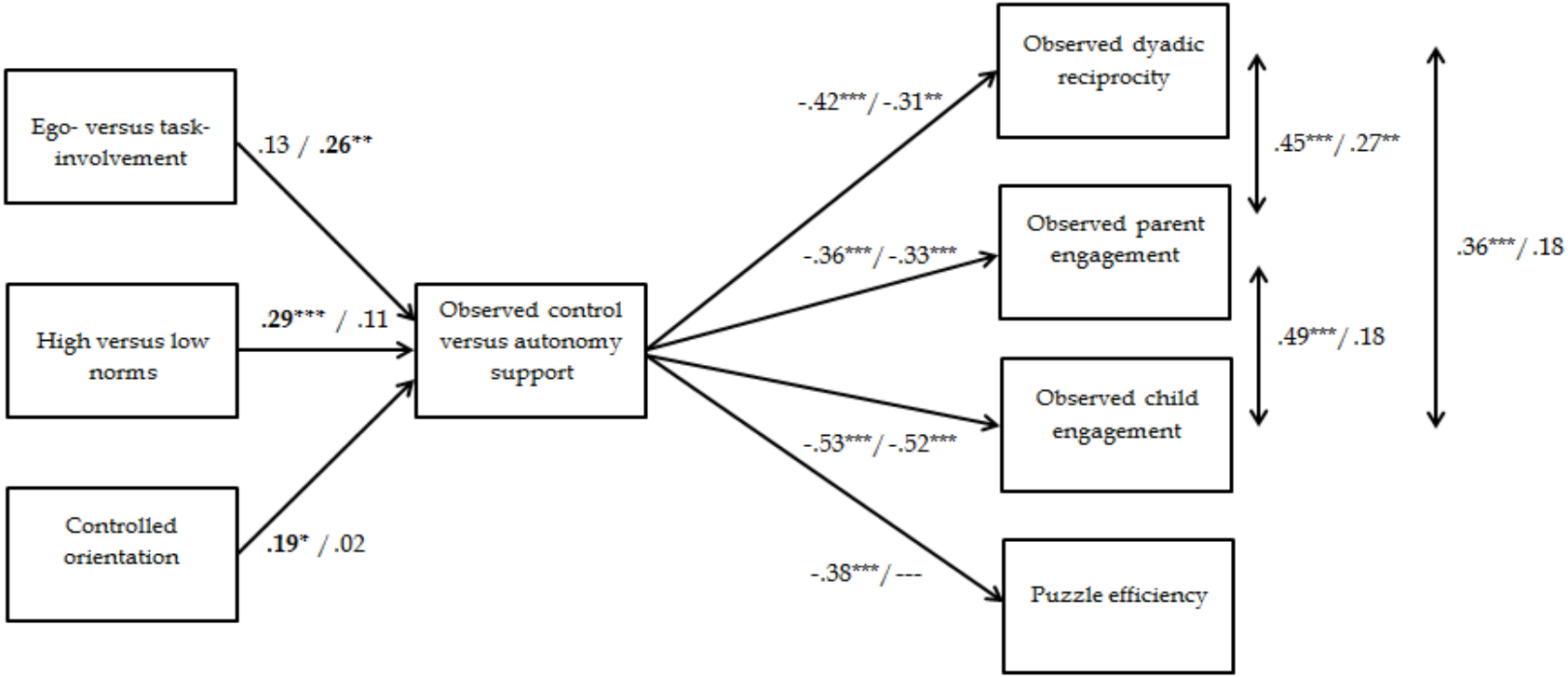

Figure 3. The structural model with standardized parameter estimates of the relations between the three sources of pressure (i.e., involvement manipulation, performance standard manipulation, and controlled orientation), observed parental control relative to autonomy support, and its outcomes in the experimental and the free-choice phase. The first coefficient shown is for the experimental phase and the second coefficient is for the free-choice phase.* $p < .05$. ** $p < .01$. *** $p < .001$

Discussion

Pressuring forces on parents' functioning are said to limit parents' time and psychological availability to be open and responsive for their children's needs (Belsky, 1984; Grolnick, 2003). As a result, parents would become more directive, thereby pushing the child towards parent-desired outcomes and providing solutions to the problem at hand instead of patiently allowing the child to find its own solution. Although a number of studies examined the role of pressure arising from within parents' personal functioning (e.g., Soenens, Vansteenkiste, Duriez, & Goossens, 2006), from parents' social environment (e.g., Wuyts et al., in press), or from the child's competence level (e.g., Pomerantz & Eaton, 2001), none of them simultaneously examined the unique and interactive contribution of these three different sources of pressure on parents' style of interacting with their children while working together on a homework-like task.

Specifically, consistent with the distinction between these three sources of pressure on parents, the present study assessed (a) parents' motivational orientations, (b) experimentally induced parental ego-involvement in the child's achievement on the task, and (c) experimentally induced child's failure by providing high performance standards. We investigated the effects of these pressures on parents' experiences, on their interaction style, and on several dyadic outcomes. Additionally, we examined the possibility that pressure on parents would transfer to the child's, the parent's, and the dyad's functioning through the observed parental style.

Effects of Pressures on Parents' Personal Experiences

Consistent with our theorizing, the two experimentally activated pressures had an effect on the way parents experienced the puzzle-solving activity. Specifically, when parents were informed that the activity was a reflection of the child's logical intelligence and were made responsible for the child's successful execution of the task (ego-involvement condition) or

when parents found out that their child was doing poorly (high norm condition), they reported feeling more tense themselves and being more concerned with the possibility that their child would fail. Yet, these effects on parent-reported tension were characterized by an interaction indicating that parents only experienced tension when the two experimentally induced pressures were both present, that is, when parents received ego-involved instructions and at the same time witnessed their child's failure. This interaction may explain why previous research failed to find effects of ego-involved pressure on parents' feelings of tension (Grolnick et al., 2002). Presumably, feelings of tension only emerge when parents see that their child is failing precisely in the task in which they were led to invest their self-worth. In situations in which parents' self-worth is interwoven with the child's performance, the child's failure represents a threat to the parent's self-worth, thereby eliciting tension.

Next to the effects of induced pressure on parents' experiences, parents also brought different motivational orientations to the puzzle-solving activity. We found that parents low on the autonomous orientation reported higher levels of tension. Interestingly, parents' autonomous orientation also immunized parents against the experience of tension, which got activated when parents witnessed their child failing to achieve the induced norms. That is, parents who lack autonomous functioning were found to be susceptible to experience tension under the high norm condition (resulting in child's failure). This moderating role of autonomous orientation resonates with previous research showing that individuals' autonomous orientation is a protective factor, helping people to perceive external events as challenges rather than as stressful threats and lead them to cope effectively with stress (see Weinstein & Ryan, 2011 for an overview).

Effects of Pressures on Parents' Interaction Style

More importantly, experimentally induced parental ego-involvement and induced child's failure to meet the set performance standard, led parents

to make use of more controlling practices. These experimental findings confirm and extend correlational findings showing that parental ego-involvement (e.g., Wuyts et al., in press) and children's poor performance (e.g., Pomerantz & Eaton, 2001), both represent risk factors for the use of a more controlling and autonomy-suppressive parenting style.

Interestingly, while the induced high performance standards (leading to child failure) mainly led to observed controlling behaviors during the experimental phase, the experimental induction of parental ego-involvement led to observed controlling behaviors during the free-choice period. This difference in the *timing* of the effects on parents' behavior was not anticipated but represents an interesting finding. While the child's failure had an immediate effect on the use of a controlling style, the effects of the instructions prompting parental ego-involvement were delayed. Presumably, parents in the high norm condition quickly found out during the experimental phase that their child would not succeed in solving the predetermined number of puzzles. The experience of time pressure and the anticipation of child's failure to reach the norm were presumably experienced as explicit and acute sources of pressure, leading parents to immediately take over the puzzle solving process from the child. The fact that the effect of induced performance standards pressure on observed parental control faded out during the free-choice period can then likely be attributed to the fact that the threat of time urgency and failure was removed as soon as the experimental phase was over.

In contrast, the priming of parental ego-involvement elicited a more controlling parental style during the free-choice period. The rather limited effect of induced parental ego-involvement in the experimental phase is congruent with past experimental work (Grolnick et al., 2002). Different elements may help to understand this finding. First, it is not easy to prime feelings of ego-involvement and child-invested contingent self-esteem in parents as the task itself need to "weight" enough. That is, there are fewer strings attached to the performance on the puzzle solving task in the current

study compared to, for instance, children's performance on exams in daily life. Second, during the experimental phase, the effect of the child's failure (versus success) may have overruled the potential effect of induced parental ego-involvement. The use of instructions to prime ego-involvement may be a relatively more subtle and implicit way of pressuring parents. That is, it may take some time and processing before the instructions 'sink in' and begin to affect parents' behavior. A third possible reason for the delayed effect of parental ego-involvement is that it was restated at the end of the experimental phase that task success was reflective of a fixed capacity (i.e., logical intelligence) in the ego-involvement condition. Holding fixed ideas about the child's capacities has been found to relate to the use of controlling parenting practices while parents worked with their child on a set of challenging problems (Moorman & Pomerantz, 2010). Thus, reiterating the notion of a fixed capacity may have been essential to trigger feelings of ego-involvement in parents and to make them use a more controlling style.

In addition to these situational influences, parents' motivational orientation, measured two months prior to their participation, related to their interaction style. Parents scoring high on the controlled orientation were observed to be more controlling (relative to autonomy-supportive) while interacting with their child in the experimental phase. This finding is consistent with a recent study showing that a controlled orientation relates positively to parent-reported controlling parenting (Wuyts et al., in press) and with an observational study showing that a controlled orientation among physical education teachers relates positively to observed controlling behavior towards students (Van den Berghe et al. 2013).

Costs Associated With Pressure on Parents

The negative effects of the three sources of pressure were not limited to the parents' interaction style, but also emerged, either directly or indirectly, for various different outcomes. Specifically, the induced performance standards had a direct negative impact on the dyad's joint

performance, whereas an indirect effect, via observed parental control, was observed for the other outcomes during the experimental phase, that is, dyadic reciprocity, parent engagement, and child engagement. Similarly, parents' controlled orientation was related to lower parental and child engagement and dyadic reciprocity through observed parental control. In the free-choice period, induced parental ego-involvement was associated indirectly, that is, via observed parental control, with parental and child engagement (but not with dyadic reciprocity). These findings suggest that pressure on parents launches a negative spiral between parents and their children because pressure on parents activates elevated parental control which, in turn, backfires on the dyadic functioning. The observed negative effects of parental control on parental engagement are complimentary with previous studies illustrating that people benefit from giving autonomy support (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006) (Reeve & Cheon, 2014).

To further illustrate this detrimental effect of pressure, we highlight the direct and indirect association of induced performance pressure on parent-child joint performance. Parents who witnessed their child's failure started to rush through the puzzles, probably because they felt a strong sense of time pressure. As a consequence, they assembled more puzzles with their child. Unfortunately, however, these dyads also made more mistakes, resulting in less efficient task performance, an effect that could be accounted for by parents' use of a controlling approach. These findings are consistent with previous experimental studies showing that pressuring conditions undermine individuals' deep-level cognitive strategies (Grolnick & Ryan, 1987; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005).

Somewhat unexpectedly, child's failure did not have an effect on the duration and quality of persistence during the free-choice period. Possibly, the threat of time urgency following from the child's poor performance faded away as soon as the experimental phase ended. This was not the case for the effect of experimentally induced ego-involvement. This type of

pressure affected the dyad's quality of persistence behavior. Indeed, although we did not find any difference in the duration of persistence between dyads who worked under ego- versus task-involved conditions, as documented in past work (Ryan et al., 1991), we observed a different quality of persistence. Specifically, only among dyads in the task-involvement condition, their free-choice behavior was congruent with their displayed engagement, while dyads in the ego-involved condition showed persistence detached from engagement and enthusiasm.

On a positive note, we found that parents' autonomous orientation played a vitalizing role for both parents' and children's' engagement in the puzzle activity. Specifically, parents scoring high on the autonomy orientation were found to be more engaged in the puzzle activity during the experimental phase, irrespective of the condition under which they approached the task. Interestingly, also children of parents scoring high on the autonomous orientation were observed to be more engaged in the puzzles. This finding is consistent with previous research indicating a relation between primed autonomous orientation and reported dyadic engagement (Weinstein et al., 2010). Apparently, parents' autonomous orientation not only influences parents' own perception and behavior, it also makes their children approach the situation with more eagerness and enthusiasm. This finding may be explained at least partly by a process of motivational contagion, meaning that one person's motivation may affect another person's motivation through mere modeling (Radel, Sarrazin, Legrain, & Wild, 2010).

Limitations

The present study is characterized by a number of limitations. First, given the lack of a neutral condition, it is unclear whether the observed effects in the current study are carried by the pressure-inducing effect of the high pressure conditions or the pressure-reducing effect of the low pressure condition. Second, although we made use of observations of behavior, the

obtained associations between the observed variables are still cross-sectional in nature. It is also possible that there exist a bidirectional relation between observed parenting and observed child engagement, for instance, with parents' and children's behaviors and experiences influencing each other in a reciprocal manner. Third, one may raise concerns about the generalizability of our findings. With respect to our sample, the participating parent-child dyads do not represent the broader population, instead being a more homogeneous and, hence, potentially biased subset. In addition, the question can be raised whether the current findings can be generalized to other achievement-related activities and towards a younger sample. Finally, although no differences were found between mothers and fathers in the background analyses, we recommend recruiting more fathers in future experimental studies. A more balanced gender ratio would allow one to perform multi-group analyses to investigate whether or not the structural relations between the study variables differ between mothers and fathers.

Conclusion

In a capitalistic ideology people are held accountable for the (lack of) outcomes they achieve and a lifestyles focused on high achievement and recognition is explicitly promoted (Kasser, Cohn, Kanner, & Ryan, 2007). Although a societal focus on individual accountability and excellence is said to yield repercussions for parents' rearing style (Grolnick & Seal, 2008), few studies tested this notion empirically (e.g., Pulfrey & Butera, 2013). In this study we tested the implications of holding parents accountable for their children's success and of setting high child performance standards to parents. The current findings suggest that there are important drawbacks associated with these activated pressures: Parents adopt a more controlling interaction style, which yields negative consequences for the dyad's quality of interaction and performance. On a positive note, autonomy-oriented parents seem to be more resilient against these situational pressures.

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Part II

Antecedents and Outcomes of Controlling Parenting in the Interpersonal Domain

Chapter 6

The Role of Observed Autonomy Support, Reciprocity, and Need Satisfaction in Adolescent Disclosure About Friends[1]

Although research increasingly addresses the role of parenting in fostering adolescent disclosure, most research relied on self-report measures of parenting and did not address the role of autonomy support. In the present observational study with 62 mother-adolescent dyads, we rated mothers' provision of autonomy support during a 10-minute conversation about friendships. We found that observed maternal autonomy support was related positively to adolescents' degree of and volitional reasons for disclosure about friends. These associations were mediated by observed reciprocity during the conversation and by adolescent satisfaction of their needs for autonomy and relatedness. Mothers' autonomy-support and mother-adolescent reciprocity also predicted mothers' own psychological need satisfaction and conversation pleasure. The relevance of the findings for adolescent autonomy and disclosure are discussed.

[1] Wuyts, D., Soenens, B., Vansteenkiste, M., & Van Petegem, S. (in revision). The role of observed autonomy support, reciprocity, and need satisfaction in adolescent disclosure about friends. *Manuscript revised for Journal of Research on Adolescence*

Introduction

'My child tells me so little!'. At least some parents of adolescents express this complaint. Indeed, during adolescence children tend to keep more information for themselves (Keijsers, Frijns, Branje, & Meeus, 2009) and they use a variety of strategies to manage information to parents, including not only disclosure but also secrecy and lying (Smetana, 2008). Parents may differ in their approach towards fostering disclosure (Grolnick, Ryan, & Deci, 1991). Some parents may act "pushy" in their attempts to find out what is happening in their children's life. Yet, such a controlling approach might backfire, leading adolescents to share less parent-desired information. Other parents may behave more empathically, patiently respecting the adolescent's pace to talk about private issues. They may be sincerely interested in the few things their adolescents share, thereby creating a warm and reciprocal parent-child environment. In such an environment adolescents might feel understood and accepted, which may make them more willing to share information, even when this information is not 'parent-proof'.

Disclosure is defined herein as disclosure of activities and whereabouts, which has been referred to as 'routine disclosure'. Such disclosure is distinct from disclosure of private thoughts and feelings, which has been referred to as 'self-disclosure' (Tilton-Weaver, Marshall, & Darling, 2014). Given that adolescent routine disclosure is a main source of parental knowledge about the child's whereabouts and is a consistent predictor of psychosocial adjustment (Kerr & Stattin, 2000; Kerr, Stattin, & Ozdemir, 2012), it is important to examine which factors promote or hinder adolescents in disclosing information to their parents. One line of research addressing the role of parents in adolescent routine disclosure has focused on the role of parenting practices such as parental solicitation and parental rule setting regarding adolescents' whereabouts. These practices appear to be rather weakly related to adolescents' general routine disclosure (e.g., Keijsers, Branje, VanderValk, & Meeus, 2010; Kerr, Stattin, & Burk, 2010).

A second line of research focused on the role of parental warmth and responsiveness, which appears a more reliable predictor of adolescents' general routine disclosure (e.g., Salafia, Gondoli, & Grundy, 2009). However, a few studies have addressed the role of autonomy-supportive (as opposed to controlling) parenting in adolescent disclosure or disclosure about friends specifically. This is unfortunate because many scholars assume that adolescent disclosure plays a key role in autonomy-relevant developmental processes (e.g., Darling, Cumsille, Caldwell, & Dowdy, 2006; Marshall, Tilton-Weaver, & Bosdet, 2005; Smetana, Metzger, Gettman, & Campione-Barr, 2006). As such, it seems important to examine whether and how parents' support for autonomy is related to adolescent disclosure.

Grounded in Self-Determination Theory (SDT; Deci & Ryan, 2000), the present study aimed to examine associations between observed maternal autonomy support (as rated during a ten-minute conversation between mothers and their children about friendships) and adolescents' degree of disclosure about fiends as well as their reasons (i.e., volitional relative to pressured) for disclosure. In addition, we investigated possible explanatory mechanisms (i.e., reciprocity and psychological need satisfaction) underlying these associations. We focused on the topic of peer relations (and friends in particular) because it a sensitive topic. At the same time it is of high relevance for adolescents' behavioral adjustment. Indeed, adolescents have been found to disclose less about their peers than about other topics (Smetana et al., 2006). According to social domain theory, this is because the domain of peer relations is considered personal and an area over which parents have little legitimate authority (Smetana et al., 2006). At the same time, peer relations and friendships plays a key role in adolescents' adjustment and problem behavior (e.g., Brown, Mounts, Lamborn, & Steinberg, 1993). In sum, fostering disclosure in this sensitive yet important domain represents a challenging task for parents.

Parental Autonomy Support and Adolescent Disclosure About Friends

A central tenet of SDT involves the postulation of the psychological needs for autonomy, competence, and relatedness, the satisfaction of which is said to be critical to for well-being and social adjustment (Deci & Ryan, 2000, 2012). For children to flourish and develop optimally, they need to feel autonomous (i.e., experiencing a sense of volition and psychological freedom), related (i.e., experiencing a sense of connectedness and intimacy), and competent (i.e., experiencing efficacy to deal with tasks and activities) in their daily activities (Deci, Eghrari, Patrick, & Leone, 1994). In the parenting context, satisfaction of these psychological needs is best promoted by parents adopting an autonomy-supportive rather than controlling parenting style (Grolnick et al., 1991; Joussemet, Landry, & Koestner, 2008). In SDT, autonomy support is defined as the degree to which parents promote volitional functioning and self-endorsement in children (Soenens et al., 2007). To do so, autonomy-supportive parents try to relate to the child's frame of reference, allow meaningful choices when possible, encourage self-initiation, and provide a meaningful rationale for a request (Grolnick, Deci, & Ryan, 1997). Importantly, this definition of autonomy-support as the promotion of volitional functioning is distinct from a definition of autonomy-support as the promotion of independence (Soenens et al., 2007). That is, autonomy-support as defined in SDT does not mean that parents encourage children to take distance and to make decisions independently (i.e., without parental input or assistance). Instead, it pertains to degree to which parents encourage the adolescent to act upon personally endorsed values, goals, and interests.

Autonomy-supportive parenting is contrasted with a controlling or pressuring approach, in which case parents pressure their children to think, act, or feel in accordance with the parental agenda and standards (Grolnick et al., 1991; Joussemet et al., 2008). Controlling parenting can manifest in at least two different ways (Soenens & Vansteenkiste, 2010). Externally controlling parenting involves the use of external contingencies (e.g., threats

of harsh punishment, taking away privileges, and controlling rewards) to pressure a child into compliance. Internally controlling parenting involves the use of tactics to pressure the child from within by appealing to feelings such as guilt, shame, and separation anxiety. The concept of internally controlling parenting is similar to the concept of parental psychological control, which involves intrusive parental strategies such as love withdrawal and guilt-induction (Barber, 1996). It should be noted that the term controlling parenting is used in SDT to refer to parenting that is domineering, pressuring, and intrusive in nature (Grolnick & Pomerantz, 2009). As such, this type of parenting is different from healthier forms of parental involvement in their child's behaviors and activities, such as parental structure and guidance (sometimes also referred to as 'behavioral control'; Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). Parental strategies that may provide structure such as rule setting and solicitation can be communicated either in an autonomy-supportive or in a controlling fashion (Soenens & Vansteenkiste, 2010).

Research has shown convincingly that autonomy-supportive, relative to controlling, parenting relates to diverse developmental outcomes, including better personal adjustment and well-being as well as better interpersonal functioning (as indexed by less relational aggression and more empathy; see Soenens & Vansteenkiste, 2010 for a recent review). Studies have also shown that, consistent with SDT, these effects can be explained through the satisfaction of children's psychological needs (e.g., Grolnick et al., 1991).

We reasoned that children growing up in an autonomy-supportive family climate would be more likely to disclose information about their activities and behavior with their friends because autonomy-supportive parents would respect the child's rhythm and pace in disclosing information rather than pushing them to do so. Also, when engaging in disclosure, autonomy-supportive parents would display an authentic interest and willingness to understand the child's perspective. Instead, children of

controlling parents may experience their parents as intrusive and meddlesome or they may feel judged and evaluated when disclosing personal information. Ironically, such controlling practices may lead them to disclose less. A number of previous studies have provided support for this reasoning in other domains. For instance, Roth, Ron, and Benita (2009) found that perceived maternal autonomy support related positively to adolescents' disclosure about mistakes at school which, in turn, related to children's willingness and capacity to learn from these mistakes. Conversely, perceived psychologically controlling parenting in general (Soenens, Vansteenkiste, Luyckx, & Goossens, 2006) and more specific manifestations of psychological control such as the perceived use of love withdrawal (Roth et al., 2009) and privacy invasion (Hawk et al., 2012), were found to relate negatively to general measures of routine disclosure.

The Importance of Observed Autonomy Support

Most studies on parental autonomy support and adolescent disclosure have relied on self-reported measures of parental style. However, adolescent self-reports of parental behavior might be biased by adolescents' own functioning. Research indeed suggests that individuals' mood and behavior can affect, at least to some extent, their perception of parental behavior. For instance, depressed individuals are more likely to recall negative parental behavior (Brewin, Andrews, & Gotlib, 1993). In the context of our research questions, an adolescent with a history of problem behavior (and subsequent secrecy about misbehavior) might be inclined to perceive a parent as controlling and autonomy-suppressing even when, in reality, the parent is not particularly controlling. Such biased self-reports of parenting style might then artificially inflate the relation between parental autonomy support (versus control) and adolescent disclosure. This problem can be overcome by assessing parental autonomy support with an observational measure.

To the best of our knowledge, only a few studies made use of observations of parental autonomy support and control in the context of conversations between parents and adolescents. Using a bipolar scale ranging from highly autonomy-supportive to highly controlling, Mauras et al. (2012) found that parents' use of autonomy support relative to control was related positively to adolescent engagement during their conversation about everyday issues and adolescents' desire for additional conversations. Further, Poulin, Nadeau, and Scaramella (2012) found observed intrusiveness, which is one specific facet of controlling parenting, to relate negatively to adolescent disclosure during a discussion between parents and early adolescents. Although informative, a drawback of these studies is that they made use of a single item to code parental style. In the present study we aimed to develop a multi-item coding system, which would allow us to examine the reliability of the coding system. Moreover, the inclusion of a broad spectrum of specific autonomy-supportive and controlling maternal behaviors may provide more exact insight into how autonomy support and control manifest during mother-child conversations regarding adolescents' friendships. These insights can then inform practical recommendations for parents.

Adolescents' Reasons for Disclosure

Measures of routine disclosure (e.g., Stattin & Kerr, 2000) have often focused on how much information adolescents disclose, thereby largely neglecting the question of whether the disclosure is voluntary or involuntary. Hence, another aim of this study was to move beyond the degree of disclosure as an outcome by also taking into account adolescents' motives for disclosure. In an initial investigation of this issue, based on focus group conversations about disclosing to parents under conditions of disagreement, Darling and colleagues (2006) identified a number of reasons for disclosure, including 'telling everything because parents might give in', 'telling things because you feel you should do so', and 'telling things

because you couldn't get away with it'. This bottom-up approach was complemented in the present study with a top down approach, thereby examining different reasons for disclosure on theoretical grounds. Specifically, grounded in SDT (Deci & Ryan, 2000) adolescents' reasons for disclosure were assumed to fall along a continuum, ranging from controlled (or pressured) to more autonomous (or volitional) reasons (Ryan & Connell, 1989).

The most pressured reason for disclosing constitutes external regulation. In this case, adolescents disclose information to avoid punishment or to obtain parents' appreciation. The pressure to disclose may also come from within. Such internal pressure is labeled introjected regulation. In this case, adolescents disclose to avoid feeling guilty or being disloyal vis-à-vis their parents. Both external regulation and introjected regulation represent forms of controlled (or pressured) motivation. In contrast, adolescents may also disclose for more volitional or autonomous reasons. With identified regulation, adolescents disclose because they personally think it is important to do so and because they value the parents' input and opinion regarding the disclosed information. With intrinsic motivation, which represents the most volitional form of disclosure, adolescents disclose because they simply enjoy sharing information with their parents.

We hypothesized that autonomy-supportive parenting would relate not only to more disclosure but also to more volitional (i.e., autonomous) rather than pressured (i.e., controlled) reasons for disclosure. Although abundant research has shown that autonomy-supportive parenting relates positively to children's autonomous (relative to controlled) functioning in life domains as diverse as school, sports, and peer relationships (Grolnick et al., 1997), to the best of our knowledge, no study to date has directly examined the associations between parental autonomy support and the reasons underlying adolescents' disclosure.

Reciprocity and Psychological Need Satisfaction as Intervening Processes

Another novel aspect of the current investigation involved the examination of intervening processes in the association between observed parental autonomy support and its outcomes. On the basis of SDT, we propose two consecutive intervening processes, that is, observed reciprocity and psychological need satisfaction. First, observed reciprocity is an important behavioral indicator of interaction quality (Weinstein et al., 2010). It manifests in behavioral attunement between conversation partners through non-verbal behavior such as leaning towards each other, joint laughter and behavioral synchronicity. Such reciprocity is considered as an important observable effect of autonomy support (La Guardia & Patrick, 2008). Indeed, Weinstein and colleagues (2010) showed that an experimental induction of autonomy in dyads of students who worked together on a number of tasks, led to more observed reciprocity. In turn, reciprocity was beneficial for their ultimate task performance and their positive affect during the task. Furthermore, other research has indicated that constructs of dyadic reciprocity, mutuality, and synchronicity are related to diverse positive socialization outcomes among children (e.g., Criss, Shaw, & Ingoldsby, 2003; Lindsey, Mize, & Pettit, 1997; Rocissano, Lynch, & Slade, 1987). On the basis of these findings, we hypothesize that observed autonomy-support is related to observed reciprocity during the parent-child conversation and that reciprocity, in turn, is related to positive outcomes (i.e., a higher degree of disclosure, more volitional reasons for disclosure, and more conversation pleasure). Moreover, because autonomy support has been found to yield benefits not only for the receiver (i.e., the adolescent) but also for the provider (i.e., the mother) of autonomy support (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006), we reason that it is not only adolescents who would gain from autonomy support through reciprocity, but that the mother will also benefit by enjoying the conversation more.

Second, we hypothesize that effects of observed autonomy support and subsequent reciprocity would be mediated by both conversation partners' psychological need satisfaction. Greater reciprocity signals that the parent and the child are well-attuned to each other during the conversation. During such well-attuned reciprocal conversations, both mothers and adolescents would feel that there is room and freedom to express themselves in the way they want (i.e., satisfaction of their need for autonomy) and they would feel a strong connection with their partner (i.e., satisfaction of their need for relatedness) (La Guardia & Patrick, 2008). Past research on interpersonal relationships has shown that need satisfaction relates positively to relationship satisfaction (e.g., Patrick, Knee, Canevello, & Lonsbary, 2007) and a willingness to rely on partners (e.g., Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). This dynamic may apply not only to horizontal relationships, but also to more hierarchical relationships, including the parent-child relationship. Mauras et al. (2012), for instance, showed that need satisfaction experienced by adolescents during a mother-child conversation about everyday issues was related to a desire to have additional conversations with their mother. Therefore, we expected that experienced need satisfaction during the conversation would relate to positive outcomes, including the degree of and volitional reasons for disclosure among adolescents, and conversation pleasure as experienced by both partners.

The Present Study

This study is an observational study in which mothers and their adolescents were asked to have a conversation about the adolescent's friendships. The 10-minute conversation was videotaped and subsequently rated every two minutes using a detailed coding scheme, involving multiple autonomy-supportive and controlling practices. The development of such a detailed coding scheme was a first aim of the present study as no reliable instrument, covering a broad spectrum of parental autonomy supportive

practices, was available in the literature. The primary aim was to test an integrated process model in which an observed autonomy-supportive versus controlling maternal style would relate positively to observed reciprocity. Reciprocity would, in turn, relate to more need satisfaction among both mothers and adolescents. Finally, need satisfaction would predict positive outcomes, including conversation pleasure among both partners of the dyad, a higher degree of adolescent disclosure, and more volitional (rather than pressured) reasons for disclosing. To examine the validity of our model in a conservative fashion, we controlled for baseline levels of adolescents' general level of disclosure and mother- and adolescent reported general autonomy support. Baseline levels of all of these constructs were assessed prior to the mother-child conversation.

Method

Participants and Procedure

Participants were 62 Belgian (Dutch-speaking) mothers and their adolescent daughter or son (all from European descent). Mother-adolescent couples were recruited through different channels, that is, via an announcement in a local newspaper (32%), via an invitation letter spread through the school of the adolescent (44%) or via other channels (e.g., a school newspaper and snowball sampling) (24%). Initially, 75 mother-adolescent couples were invited to the laboratory. Because 12 of them did not show up at the appointment (16%), 63 couples actually participated at the study. One mother-adolescent couple was excluded from the analysis because of their limited knowledge of the Dutch language. There were almost no missing data because mother-adolescent dyads engaged in a videotaped conversation that could be coded for all dyads and both mothers and adolescents completed the questionnaires in the lab.

Mothers were on average 44 years old (*SD* = 3.46; range 37-55). Adolescents were on average 14 years old (*SD* = 1.19; range 12-16), with a majority of them being female (77%). The majority of the mothers were

highly educated, as 90% obtained a college or university degree. Most of the adolescents followed an academic track (i.e., 80%); whereas only 18% and 2% were attending the technical and vocational track, respectively. Seventy-three percent of the mothers were married or living together with the biological father of their child.

The study was conducted by two researchers, who each met with 31 mother-adolescent couples. Mother-adolescent couples received an informed consent form stating that their conversation would be videotaped. None of the 62 couples denied participation. Next, all mothers were informed that the study focused on adolescent disclosure of personal information. Mothers and adolescents were then invited to have a 10-minute conversation regarding things that happened in the adolescent's friendships during the past two weeks. Specifically, we instructed both mothers and adolescents to talk about the friends of the adolescent, what they had done together during the last two weeks, and how the adolescent experienced these friendship activities. The study actually had an experimental design where half of the mothers received a more pressuring instruction emphasizing their responsibility as a parent to be informed about their child's ongoing friendship (i.e., the high pressure condition) and the other half of the mothers were instructed in a more supportive way (i.e., the low pressure condition). This manipulation did not have main effects on the variables included in this study. Therefore, for the purpose of the present study we collapsed the data across the two conditions. Afterwards participants were debriefed about the purpose of the study and were invited to an information session regarding the results of the study that would take place half a year later.

Measures

Self-reported measures. Adolescents and mothers filled out questionnaires prior to and after the 10-minute conversation. All items were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally*

agree). Descriptive statistics and internal consistencies of each measure can be found in Table 2.

Adolescent general degree of routine disclosure prior to the conversation. To assess adolescents' general degree of disclosure prior to the conversation we used the 5-item Child Disclosure Scale developed by Stattin and Kerr (2000; e.g. "How often do you usually tell your mother about your friends?").

General autonomy support prior to the conversation. To validate the coding scheme for the observed maternal behaviors, we administered to adolescents and mothers a self-report scale tapping into maternal autonomy support relative to control. This scale, which has been used in many previous studies (e.g., Soenens & Vansteenkiste, 2005), includes 7 items from the Autonomy Support subscale of the Perceptions of Parents Scale (POPS; Grolnick et al., 1991; e.g., "My mother allows me to decide things for myself.") and the 8 (reverse–scored) items of the Psychological Control Scale – Youth Self Report (Barber, 1996; e.g., "My mother will avoid looking at me when I have disappointed her.").

Adolescent degree of disclosure about friends during the conversation. Following the conversation, adolescents were administered two items tapping into disclosure regarding their friendships from the Child Disclosure Scale from Stattin and Kerr (2000). For the purpose of the present study we adapted the formulation of these two items to tap into disclosure during the past conversation (e.g., "How much did you disclose about the activities with your friends during the past conversation?"). Both items were positively correlated ($r = .56$, $p < .001$) and were averaged to form a score of disclosure.

Adolescent volitional reasons for disclosure during the conversation. To measure adolescents' autonomous (volitional) and controlled (pressured) reasons for disclosure during the conversation, we adapted the Self-Regulation Questionnaire (SRQ; Ryan & Connell, 1989), a questionnaire tapping into motivation that can be applied across different

contexts and domains. The questionnaire started with an item stem reading "During the past conversation, I disclosed information about my friendships to my mother because …". Following this stem, adolescents were asked to rate items tapping into different reasons. Two types of controlled reasons were assessed, that is, external regulation (e.g., "… I felt forced to do so."; 5 items) and introjection (e.g., "… otherwise I would feel bad about myself."; 5 items). Similarly, two types of autonomous reasons were assessed, that is, identification (e.g., "…talking with my mother is something I personally value."; 5 items) and intrinsic reasons (e.g., "…I like to share things with my mother."; 5 items).

An initial version of this questionnaire (which included 6 items per scale) was validated in an independent pilot study with a sample of 9^{th}-11^{th} grade adolescents (N = 208; 66% female; 22%, 54%, and 24% following an academic, technical, vocational track, respectively). These participants indicated their reasons for disclosing information to their mother in general. An exploratory factor analysis using Principal Axis Factoring with Varimax rotation was performed on the 24 items. The scree-plot pointed to a four-factor solution, with eigenvalues ranging from 6.75 to 1.06. Four items (one item from each regulation style) did not load as expected and were removed from the analyses. After omitting items that did not load well, all remaining items had a minimal loading of .49 on their expected factor and the final 4-factor solution explained 66.37% of the variance. Further, the pattern of correlations between the different subscales (i.e., external, introjected, identified, and intrinsic reasons) mirrored a simplex pattern, with subscales being situated next to each other on the underlying continuum from controlled to autonomous motives correlating more strongly with one another than subscales being situated further apart. As one example, the correlation between identified and intrinsic reasons, two motives situated close to each other on the continuum, was more pronounced (r = . 66, p < .001) than the correlation between introjected and intrinsic reasons, two motives situated further apart on the continuum (r = . 19, p < .01). Consistent

with previous research (e.g., Ryan & Connell, 1989; Soenens & Vansteenkiste, 2005), we computed a Relative Autonomy Index (RAI) by assigning a weight to the self-regulation styles as a function of their position on the self-determination continuum (i.e., external, introjected, identified and intrinsic regulation are, respectively, assigned the weights of -2, -1, +1 and +2) and by summing these weighted scores. Higher scores on the RAI indicate relatively more autonomous motivation and relatively less controlled motivation for disclosure. In the remainder of this contribution we will refer to this measure as a score for volitional reasons for disclosure.

To externally validate this measure, in the pilot study we also investigated the relation between volitional reasons to disclose and (a) degree of disclosure (as assessed with the scale of Stattin & Kerr, 2000), (b) maternal knowledge (as assessed with the Maternal Knowledge Scale, Stattin & Kerr, 2000; e.g., "My mother knows what I do during my free time."), (c) a general measure of perceived autonomy-supportive (versus controlling) maternal parenting (i.e., the same measure as the one used in the current study), and (d) a composite score of adolescent problem behavior, as indexed by drug abuse (DBS; Weinmann, 1992), delinquency (Baerveldt, 1992), and antisocial behavior (YSR; Feeney & Kirkpatrick, 1996). The score for volitional reasons for disclosing information was related positively to degree of disclosure (r = .67, p < .001), indicating that adolescents generally disclose for relatively more volitional reasons. Further, as expected, the score for volitional reasons for disclosure was related positively to maternal knowledge (r = .60, p < .001) and to perceived maternal autonomy support (r = .65, p < .001), while it related negatively to problem behavior (r = -.32, p < .001). Together, these findings attest to the validity of this new scale.

Conversation pleasure. Both mothers and adolescents reported how pleasurable and interesting they had experienced the conversation (e.g. "I would describe the conversation as … interesting."). To do so, 6 items derived from the Positive Affect/Negative Affect Schedule (PANAS;

Watson, Clark, & Tellegen, 1988) were administered (i.e., enjoyable, interesting, pleasurable, constructive, fascinating, open).

Psychological need satisfaction during the conversation. Both mothers and adolescents rated six items regarding satisfaction of their needs for autonomy (e.g., "During the conversation I felt pressured." – reversed scored) and relatedness (e.g., "During the conversation I felt a warm connection with my mother/my son/daughter."). These items were adapted from The Basic Need Satisfaction in Relationships Scale (La Guardia, Ryan, Couchman, & Deci, 2000). Higher scores on these scales reflect higher need satisfaction during the conversation.

Observed measures. All conversations were videotaped and rated for observed maternal autonomy support and reciprocity during the interaction. One rater (i.e., the first author) scored all items of the coding scheme for all videotapes. A second rater independently scored a random sample involving 41 videotapes (i.e., 66%), so that inter-rater reliabilities could be estimated. The 10- minute conversation was broken down into five 2-minute intervals. We selected a 2-minute unit following Mauras et al. (2012). A two-minute base seemed appropriate to use in order to make the interval long enough to observe events of autonomy supportive behavior and reciprocity. At the same time, this interval was sufficiently short and allowed us to observe variation in these behaviors across the conversation period. Within these intervals every item tapping into autonomy support and observed reciprocity was rated on a scale ranging from 1 (*totally absent*) to 7 (*strongly present).*

Observed autonomy-supportive (versus controlling) style. In the present study, we aimed to develop a reliable, multi-item coding system to code observed maternal autonomy support during conversations regarding adolescents' friendships. The development of the instrument proceeded through different phases. In a first phase the authors watched 5 of the 62 videotapes together to get acquainted with the nature of the conversations. They then formulated an initial set of items reflecting autonomy support and

control. Some of these items were taken and adapted from previously used rating systems in different life domains (Deci, Driver, Hotchkiss, Robbins, & Wilson, 1993; Grolnick, Price, Beiswenger, & Sauck, 2007; Mauras et al., 2012; Reeve & Jang, 2006), while other items were new and were informed by the viewing of the videotapes. All items were formulated with specific reference to the theme of parent-adolescent interaction in the context of adolescent disclosure. In a second phase, two raters actually coded the first five videotapes. On the basis of their experiences while coding, they highlighted a number of problems with some of the items (e.g., lack of clarity of the items, problems using the rating scale, and low frequency of occurrence of some of the behaviors). These problems were discussed with all authors and refinements to the coding scheme were made. Then, the remaining 57 videotapes were coded.

The final coding scheme consisted of 19 items, 9 of which tapped into autonomy-supportive behaviors and 10 of which tapped into controlling behaviors. An exploratory factor analysis using Principal Axis Factoring was performed on these items. The scree-plot pointed to a one-factor solution, with an eigenvalue of 7.47. After excluding two items with a low (<.30) loading, all items had a minimal loading of .37 and the factor solution explained 43.92% of the variance. All autonomy-supportive items yielded a negative loading, while all controlling items yielded a positive loading. Table 1 provides the descriptive statistics and factor loadings of the solution obtained after omitting items that did not load well, along with operational definitions of each of the 17 final items. To create a composite score of observed autonomy-supportive (versus controlling) maternal practices we averaged all items, thereby reverse coding the controlling items. The inter-rater intra-class correlation of the total score was .72 ($p < .001$). To further examine the validity of this composite score we computed correlations with two separate items coding generally autonomy-supportive and generally controlling style in each interval. As expected, these two general items were correlated highly positively ($r = .70$, $p < .001$) and negatively ($r = -.84$, $p <$

Table 1

Descriptive Statistics, Factor Loadings, and Operational Definitions of the 17 Autonomy-Supportive (Versus Controlling) Behaviors

Parental behavior	Means (*SD*)	Factor loadings	Operational definition
Choice of conversation topic	2.99 (.87)	-.64	The degree to which the adolescent is allowed to choose the topics during the conversation.
Reflective listening	2.94 (.58)	-.62	Parental use of reflections where the parent reformulates the feelings, experiences, and thoughts of the adolescent and adds her own interpretation
Recognizing adolescent's emotional state	2.58 (.94)	-.47	Recognizing the emotional state of the adolescent by being aware of his/her feelings and trying to explore them together, rather than ignoring sensitive subjects and overlooking the adolescent's emotional expressions.
Asking experience questions	2.88 (.74)	-.37	Asking open-ended questions meant to explore the experiences of the adolescent more in depth rather than just probing superficial information.
Authentic interest	3.79 (.54)	-.49	Showing authentic interest by displaying attention for the experiences of the adolescent
Recapitulate disclosure	2.23 (.74)	-.49	Summarizing the adolescent's disclosure to better understand what the adolescent is saying.
Empathic understanding	2.99 (.69)	-.53	Parental perspective taking and identifying with the viewpoint of the adolescent.
Awaiting disclosure	2.63 (.84)	-.45	Allowing the adolescent to disclose at his/her own pace without immediately asking new questions when the conversation stops.
Closed questioning	1.87 (.76)	.75	Frequently asking closed questions pushing the adolescent to disclose information.
Using controlling language	1.07 (.14)	.38	Making use of should/have to statements
Commanding	1.15 (.27)	.83	Continuous questioning and commanding the adolescent to disclose information.
Unsolicited advising or lecturing	1.18 (.34)	.85	Giving long speeches on issues the adolescent discloses; providing advice when it is inappropriate or unwanted by the adolescent or insistent stating what the adolescent should or should not do.
Showing disappointment and guilt-induction	1.25 (.33)	.75	Showing disappointment on specific topics the adolescent discloses, using guilt-inductive techniques when being concerned or when disagreeing, or wanting to impose the parental agenda.
Criticizing and expressing disapproval	1.47 (.54)	.75	Criticizing the adolescent or expressing disapproval on specific topics the adolescent discloses
Interrupting	1.29 (.42)	.60	Interrupting the adolescent when he/she is talking
Intrusive questioning and showing mistrust	1.30 (.47)	.88	Soliciting adolescent disclosure by asking intrusive questions and by expressing doubt and distrust.
Predominant parental talking	1.58 (.66)	.71	Predomination of parental speech during the conversation in such a way the adolescent gets less room to disclose or the focus is relegated to the parent instead of the adolescent.

.001), respectively, with the composite score of observed autonomy support (versus control). Furthermore, we computed correlations with adolescents' and mothers' self-reported scores for general autonomy support (versus control), as assessed prior to the study. These correlations were significant for both maternal (r = .30, p < .05) and adolescent (r = .33, p < .01) reports.

Observed reciprocity. To observe reciprocity during the videotaped interactions we used a measure developed by Weinstein et al. (2010; Study 2). This measure has three items tapping into the frequency of leaning forward, behavioral synchronicity (e.g., mimicking each other's non-verbal behavior), and joint laughter. The inter-rater intra-class correlation was .76, p < .001.

Results

Preliminary Analyses

We first conducted a multivariate analysis of covariance to explore whether background variables were associated with the study variables and should be controlled for in our main analysis. None of the background variables had a significant multivariate effect on the study variables, adolescent gender (Wilks' Lambda = .70, F(11, 40) = 1.59, p = .14), adolescent age (Wilks' Lambda = .71, F(11, 40) = 1.51, p = .17), adolescent educational level (Wilks' Lambda = .91, F(11,40) = 0.36, p = .96), maternal age (Wilks' Lambda = . 77, F(11, 40) = 1.10, p = .38), maternal educational level (Wilks' Lambda = . 79, F(11, 40) = 0.98, p = .48), family structure (whether or not the family was intact; Wilks' Lambda = . 84, F(11, 40) = 0.69, p = .74), and number of children in the family (Wilks' Lambda = . 72, F(11, 40) = 1.41, p = .20).

Correlations between the study variables can be found in Table 2. Observed maternal autonomy support was significantly correlated with observed reciprocity and with adolescent degree of and volitional reasons for disclosure. Further, observed autonomy support yielded a positive correlation with maternal need satisfaction, but not with adolescent need

Table 2

Descriptive Statistics, Internal Consistencies, and Correlations Between Observed and Self-Reported Study Variables

	M (*SD*)	α	1	2	3	4	5	6	7	8
1. Observed autonomy support (vs. control)	4.98 (0.40)	.89	-							
2. Observed reciprocity	4.24 (0.79)	.72	.48***	-						
3. Psychological need satisfaction (A)	3.91 (0.92)	.83	.10	.31*	-					
4. Degree of disclosure about friends (A)	3.80 (0.82)	.71	.29*	.31*	.38**	-				
5. Volitional reasons for disclosure (A)	6.01 (3.37)	.91	.30*	.40**	.67***	.25	-			
6. Conversation pleasure (A)	3.64 (0.92)	.86	.21	.22	.58***	.31*	.42**	-		
7. Psychological need satisfaction (M)	4.18 (0.62)	.69	.38**	.39**	.47***	.27*	.48***	.31*	-	
8. Conversation pleasure (M)	3.99 (0.74)	.91	.10	.18	.35**	-.11	.34**	.28*	.60***	-

Note. A = adolescent-reported; M = mother-reported

*p<.05 **p<.01***p<.001

satisfaction. Observed reciprocity correlated positively with maternal and adolescent need satisfaction and adolescent degree of and volitional reasons for disclosure. Finally, need satisfaction was associated positively with both mothers' and adolescents' conversation pleasure and adolescent degree of and volitional reasons for disclosure.

Primary Analyses

To estimate our hypothesized model we performed Structural Equation Modeling (SEM) analyses with manifest variables using MPlus 6 software with robust maximum likelihood estimation (Muthén & Muthén, 2010). The initial model contained a path from observed autonomy-supportive style to reciprocity which was, in turn, related to both maternal and adolescent need satisfaction. Maternal need satisfaction was modeled as a predictor of mother-reported conversation pleasure. Adolescent need satisfaction was modeled as a predictor of adolescent-reported conversation pleasure, degree of disclosure, and volitional reasons for disclosure. Two variables in the model (need satisfaction and conversation pleasure) were measured in exactly the same way among mothers and adolescents. To take into account the dependency of the data with respect to these two variables, we allowed the mother and adolescent reports of both variables to be correlated (thereby controlling for their shared variance).

Initial estimation of this model yielded only modest fit: $X^2(14) = 23.62$; $p = .05$, RMSEA = .11, SRMR = .08, CFI = .93. According to the modification indices, a direct path from observed autonomy support to adolescent reported volitional reasons for disclosure had to be added to obtain acceptable fit, $X^2(13) = 17.79$; $p = .17$, RMSEA = .08, SRMR = .07, CFI = .97. This model is depicted graphically in Figure 1. Observed autonomy support was related positively to observed reciprocity which, in turn, predicted higher need satisfaction in both mothers and adolescents. Whereas maternal need satisfaction was related positively to mother-reported conversation pleasure, adolescent need satisfaction was related

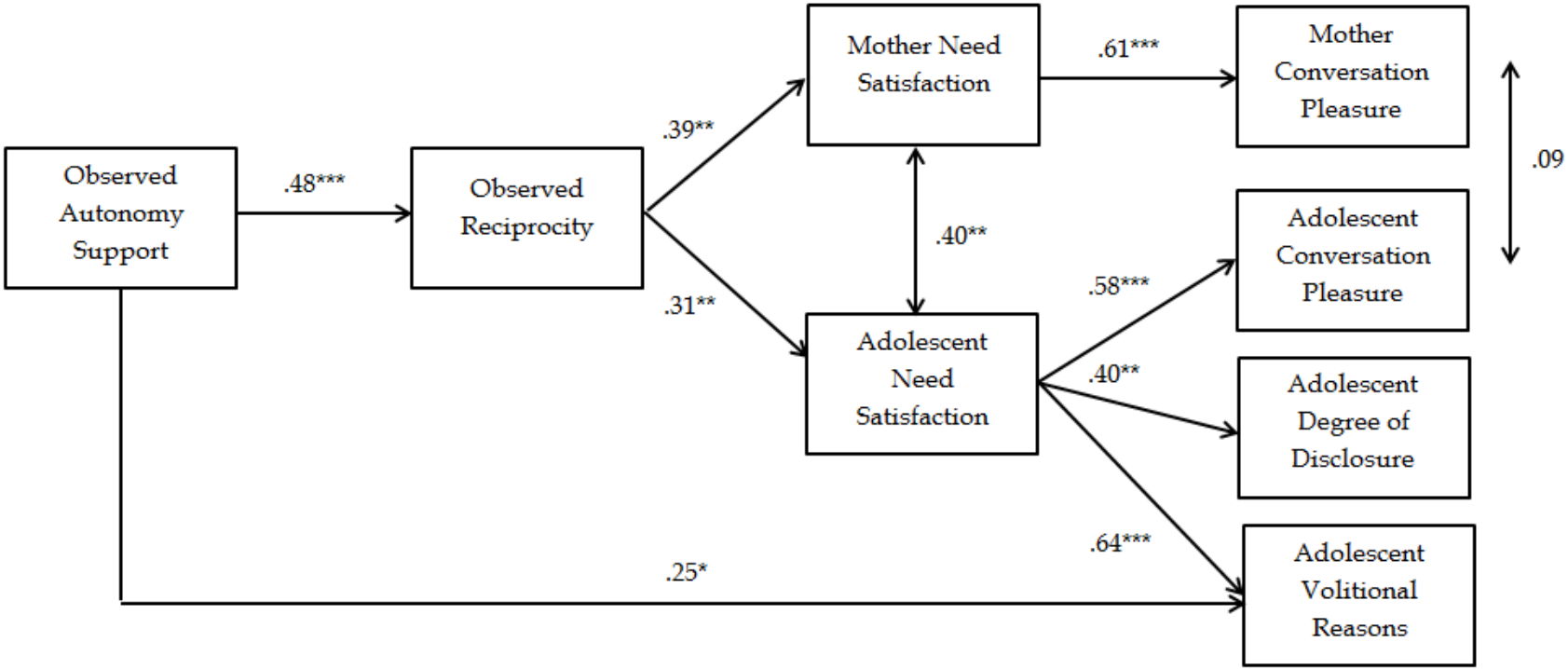

Figure 1. The structural model with standardized parameter estimates of the relations between observed maternal autonomy support (versus control), observed reciprocity, maternal and adolescent reported need satisfaction, maternal and adolescent reported conversation pleasure, and adolescent degree of and volitional reasons for disclose about Friends. * $p < .05$. ** $p < .01$. ***$p < .001$.

positively to adolescent-reported conversation pleasure, degree of disclosure, and volitional reasons to disclose. According to a Sobel (1982) test for indirect relations, the indirect associations from observed autonomy support to both mothers' and adolescents' psychological need satisfaction (through reciprocity) were significant (*p*s < .05). Similarly, all indirect associations from observed autonomy support to the outcomes (through reciprocity and subsequent need satisfaction) were significant (*p*s < .05), with the exception of the indirect effect to adolescent degree of disclosure ($p = .11$). Also, all indirect associations from observed reciprocity to the outcomes (either through maternal need satisfaction or adolescent need satisfaction) were significant (*p*s < .05), with the exception of the indirect effect to adolescent degree of disclosure ($p = .08$). In a final step, we checked whether our model could be improved by adding three direct paths. The model fit could not be improved by adding direct paths from observed autonomy support to maternal and adolescent need satisfaction, $\Delta SBS\text{-}\chi^2(2) = 5.41$; $p = .07$, nor by adding direct paths from observed autonomy support to the remaining outcomes, $\Delta SBS\text{-}\chi^2(3) = 7.06$; $p = .07$, or from observed reciprocity to the outcomes, $\Delta SBS\text{-}\chi^2(4) = 5.04$; $p = .28$.

To test our model in a more conservative way, we performed a supplementary analysis in which we controlled all associations in our model for baseline levels of adolescent disclosure and mother and adolescent reported general autonomy support (versus control). To do so, each variable in the model was regressed on the scores for the baseline measures. The resulting unstandardized residual scores can be interpreted as scores for the study variables controlled for the baseline measures. Next we computed the model depicted in Figure 1 again with the residual scores of all our variables. All paths shown in Figure 1 remained significant, except for the path between observed reciprocity and adolescent need satisfaction, $\beta = .13$, $p = .22$. Overall, this analysis showed that the model generally held even when controlling for baseline levels of disclosure and autonomy-support. In other words, the associations of observed autonomy-support and reciprocity with

the outcomes were specific to the situation (i.e., the conversation regarding friendships) and could not be accounted for by the adolescents' general tendency to disclose information to parents or to mothers' general inclination to be autonomy-supportive.

Discussion

Given that adolescent disclosure is predictive of better psychosocial adjustment (e.g., Kerr & Stattin, 2000), it is important to determine which parenting climate encourages adolescents to disclose. In particular there is a need for research on disclosure about peer relations and friendships because such relations are important for adolescents' development (Brown et al., 1993). However, because the topic of peer relations and friendships is quite personal and sensitive (Smetana et al., 2006), it may be challenging for parents to engage in a constructive conversation about this topic.

To date, most research on the role of parents in adolescents' routine disclosure has focused on the role of parental monitoring and on the role of parental warmth (for a review see Kerr, et al., 2012). Although it has been argued by many scholars that adolescents' autonomy and parental support for autonomy may also be important determinants of disclosure (e.g., Darling et al., 2006; Marshall et al., 2005; Smetana et al., 2006), relatively few studies have examined whether parents' reliance on autonomy-supportive practices is related to adolescent disclosure. Also, the explanatory processes that can account for the association between autonomy-supportive parenting and disclosure have received little attention. The aim of the present study was to fill these lacunae, thereby making use of an observational measure of autonomy support in the context of mother-adolescent conversations about friendships.

Overview of the Findings

As expected, we found that adolescents of mothers who were observed to provide relatively more autonomy support during a conversation

regarding friendships were more likely to share information related to this topic. Interestingly, adolescents of mothers who were observed to be autonomy-supportive not only disclosed more information regarding their friendships, they also did so more wholeheartedly (i.e., for volitional rather than pressured reasons). It seems that under autonomy-supportive circumstances adolescents open up, not so much to please their mothers or to avoid feeling guilty, but because they truly want to do so. That is, they find it personally meaningful and enjoyable to share information with their mother regarding their friends. Probably, received autonomy support contributes to more volitional disclosure regarding peer issues because it indicates the mother's genuine interest in the child's perspective and her willingness to listen to the child in an open and unbiased fashion.

Several interrelated explanations or mechanisms can be put forward to explain the positive associations between autonomy support and both the degree of and volitional reasons for adolescents' disclosure. Consistent with Weinstein et al. (2010), convincing evidence was found for a link between maternal autonomy support and reciprocity in the mother-adolescent dyad. Whereas Weinstein et al. (2010) investigated this link in horizontal relationships (i.e., students working together), we demonstrated it for the first time in the more hierarchical mother–adolescent relationship. When mothers were more autonomy-supportive, the interaction was more synchronized and smooth, as manifested in non-verbal behaviors such as leaning towards each other, laughing together, and mirroring each other's behaviors.

Further, observed reciprocity was related to greater psychological need satisfaction which, in turn was related to a greater degree of adolescent disclosure as well as to more volitional disclosure. That is, to the extent that mothers were more autonomy-supportive during the conversation and that there was more reciprocity between adolescents and mothers, adolescents felt a stronger sense of connection to their mother (i.e., relatedness need satisfaction) and were better able to be themselves during the interaction (i.e.

autonomy need satisfaction). When having these psychological needs met, adolescents not only shared more information with their mother (degree of disclosure), but also did so more willingly and rated the conversation as more pleasant. This experience of the conversation pleasure may set the stage to share more information in the future (Mauras et al., 2012). The current findings are consistent with research showing (a) that experiences of need satisfaction in close interpersonal relationships are essential to the quality of those relationships (La Guardia et al., 2000) and (b) that these experiences can explain how relationship partners' interpersonal style translates into the quality of the relationship (La Guardia & Patrick, 2008). Another potential mechanism that could be examined in future work is adolescents' perception of legitimacy, which has been established as a key concept in adolescent information management (Smetana et al., 2006). Possibly, greater levels of reciprocity and need satisfaction could help to explain why maternal autonomy-support relates to greater perceived legitimacy.

Interestingly, mothers also benefitted from giving autonomy support. Maternal provision of autonomy support and subsequent reciprocity were also related to more need satisfaction and conversation pleasure as experienced by the mothers. This result is consistent with Deci et al.'s (2006) finding that giving autonomy support to a friend is associated with more positive relational functioning and greater well-being among both the receiver and the provider of autonomy support. This finding is interesting because it suggests that, in an autonomy-supportive context, a positive spiral between mothers and their children may develop.

Theoretical and Practical Implications

The current findings may have important implications for theorizing on the role of autonomy in disclosure. In the developmental literature on adolescent autonomy, there is increasing consensus that autonomy may be conceptualized in different ways (Van Petegem, Vansteenkiste, & Beyers,

2013; Zimmer-Gembeck & Collins, 2003). These different conceptualizations of autonomy may have different associations with adolescent disclosure. Specifically, autonomy may be defined as independence, which pertains to the degree to which adolescents act, think, or behave without relying on others (and on the parents in particular). Research (Finkenauer, Engels, & Meeus, 2002; Keijsers & Poulin, 2013) suggests that more independence is related to *less* disclosure to the parents, possibly because withholding information is one way to attain more independence in the family. However, the current study drew upon SDT, where autonomy is conceptualized as volitional functioning, which pertains to the degree to which adolescents act upon personally endorsed goals, values, and interests. As is shown in previous research (e.g., Ryan & Lynch, 1989; Van Petegem, Beyers, Brenning, & Vansteenkiste, 2013), adolescents' volitional functioning is associated positively with close and supportive parent-adolescent relationships. Therefore, more volitional functioning would be expected to relate to *more* disclosure. This is because adolescents high on volitional functioning may value the relationship with their parents and may, as such, see the value of disclosure. Indeed, as the current study indicates, when parents promote self-endorsed functioning, adolescents tend to disclose more and they do so more wholeheartedly.

Our findings may also contribute to theorizing on different forms of adolescent disclosure (i.e., routine disclosure and self-disclosure). Although routine disclosure may be either voluntary or involuntary in nature, the voluntary-involuntary dimension is often intertwined in measures of routine disclosure (Tilton-Weaver et al., 2014). The explicit distinction made in this study between the degree of disclosure and the reasons for disclosure is important in this regard because it helps to differentiate when routine disclosure is voluntary and when it is not. An interesting question for future research is whether more volitional forms of routine disclosure are accompanied with self-disclosure, which is said to be voluntary by definition (Tilton-Weaver et al., 2014). That is, when adolescents talk about activities

with their friends (i.e., routine disclosure) because they value doing so (i.e., volitional reasons for disclosure), they may be more likely to voluntarily reveal what they thought and felt about the activity and their peers (i.e., self-disclosure).

Next to these theoretical implications, our findings may have practical relevance as well. Indeed, the development of an observational tool in the present study provided detailed insight into the specific manifestations of autonomy support in the context of mother-adolescent conversations about friendships. Among other things, autonomy support manifested as the provision of choice about the conversation topic, reflective listening, and empathic understanding, such that the parents could fully connect with the adolescents' frame of reference. Further, autonomy-supportive mothers refrained from adopting a controlling style, as manifested in intrusive questions, displays of mistrust, unsolicited advice, lecturing, and imposing their own point of view. The identification of these specific behaviors reflecting autonomy-supportive (versus controlling) parental practices is important for the formulation of practical recommendations for parents and family therapists. The coding system developed in this study can help to provide advice about what parents can do to foster disclosure when talking with their children and what kind of behaviors or communication techniques are better avoided.

Limitations

The current research has some limitations. First, although part of our data relied on observational measures, the nature of the study is still cross-sectional which did not allow us to examine reciprocal relations between the measured concepts. It is indeed very likely that mothers' and adolescents' behaviors and experiences influence each other in a reciprocal fashion. For instance, with non-disclosing adolescents parents may develop a sense of helplessness, thereby either giving up on their attempts to solicit information or soliciting information in a rather controlling way. Both responses may

contribute further to adolescent secrecy. Longitudinal research is recommended to examine such reciprocal processes.

Second, we focused on mothers only, thereby neglecting the potential role of fathers in adolescent disclosure. Further research is needed to examine whether paternal autonomy support in this context manifests differently than maternal autonomy support and whether paternal autonomy support is relevant for the same domains of disclosure.

Third, two concerns need to be highlighted with respect to the choice to focus on the domain of peer affiliations, one dealing with the specificity of our findings and one dealing with their generalizability. Although mothers and adolescents were instructed to talk about the adolescent's friendships, other topics, such as prudential issues (e.g. smoking together with a friend), than those representing purely the domain of friendships might have been discussed. This tendency to simultaneously discuss issues from several domains (which cannot be avoided when having mothers and adolescents engage in an open conversation) troubles the specificity of our findings. With respect to the generalizability of our findings, one may wonder whether our findings would also apply in other, perhaps less sensitive, social domains (e.g., moral and conventional issues). Future research could use a within-person design, thereby asking mother-child dyads to talk about two different topics (e.g., Mauras et al., 2012). Although significant mean-level differences in the degree of and reasons underlying disclosure are to be expected between domains (Smetana et al., 2006), recent research suggests that autonomy-supportive parenting is beneficial (e.g., in terms of internalization of rules) across different social domains (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014). As such, we would expect the structural relations between autonomy support, disclosure, and reasons for disclosure to be rather domain-invariant.

Fourth, recent research has demonstrated empirical differences between adolescent disclosure and adolescent secrecy (Keijsers & Laird, 2010), with secrecy signaling more maladjustment and poorer parent-child

relationships than a mere absence of disclosure. It would be interesting to examine whether autonomy support relates to both disclosure and secrecy.

Finally, concerns might be raised about the selectivity of our sample and about the use of observational methods. With respect to our sample, it is important to note that the majority of participating mothers are highly educated and that most adolescents were female and following an academic track. With respect to the observational methods, it is important to note that we observed mother-child dyads only for a short period of time in the lab. Therefore, it remains unclear whether our findings generalize to the broader population of parents and adolescents and to more naturally occurring situations of parent-child interactions in real-life.

Conclusion

This study showed that when mothers were more autonomy-supportive (versus controlling) during a conversation with their children, their children were more likely to open up and disclose what is going on in their lives wholeheartedly. This appeared to be the case because when mothers were autonomy-supportive, the interaction was characterized by more reciprocity, thereby nurturing adolescent experiences of autonomy and relatedness. Mothers who provided autonomy support also reported more need satisfaction and conversational pleasure themselves. To the extent that further research confirms our findings, there is clearly a need to pay attention to these dynamics in the counseling of families and in recommendations regarding communication style in the context of adolescent disclosure.

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Chapter 7

The Role of Separation Anxiety and External Pressure in Mothers' Use of Autonomy Support: An Observational Study[1]

This study examined the role of separation anxiety and external pressure in mothers' autonomy-supportive conversation style. A total of 62 mother-adolescent dyads (*M* age adolescents = 14 years) were requested to have a conversation about the adolescent's friendships. After having completed a measure of separation anxiety, mothers were assigned to either a high or low pressure condition, with pressure operationalized as the degree to which mothers were made accountable for being informed about their child's friendships. We coded mothers' autonomy-supportive relative to controlling practices and mothers reported on their experiences during the conversation. Regardless of condition assignment, mothers high on separation anxiety were observed as less autonomy-supportive and more controlling and reported more relief at the end of the conversation. Mothers high on separation anxiety were also more sensitive to the effects of experimentally induced pressure as they reported more tension and internally pressuring reasons in the high pressure condition.

[1] Wuyts, D., Soenens, B., Vansteenkiste, M., Van Petegem, S., & Brenning, K. (2014). The role of separation anxiety and external pressure in mothers' use of autonomy support: An observational study. *Manuscript submitted for publication*.

Introduction

Parental separation anxiety involves parents' experience of negative emotions, such as worry, discomfort, and anxiety, in relation to children's increasing distance-taking (Hock & Lutz, 1998; Hock, McBride, & Gnezda, 1989). Separation anxiety has typically been studied in mothers of young children and is seen as a predictor of the quality of mother-child attachment (e.g., McBride & Belsky, 1988). In infancy, parental concerns about separation with the child are quite common and moderate levels of such anxiety may be adaptive because they prompt parents to provide protection and comfort (Bowlby, 1973). However, in later developmental periods, parental separation anxiety may be less beneficial for children's development as children typically need more distance and spend more time away from parents as they grow older. The later tendency becomes particularly prominent in adolescence, as it is part of a process of increasing individuation in that life period. At the same time children and adolescents continue to need their parents as a secure base from which they can explore their environment. Through this separation-individuation process adolescents try to establish a balance between keeping in contact with the family and forming an individuated self (e.g., Frank, Avery, & Laman, 1988; Smollar & Youniss, 1989).

Although all parents are confronted with this process of separation-individuation, parents differ in the way they cope with the challenges arising from the process. Whereas some parents manage to handle these changes, others consider this individuation process as a threat to the parent-child relation, as it signals that adolescents no longer need them (Simpson & Rholes, 1994). During adolescence, parental separation anxiety refers to feelings of stress and concern regarding the decreasing involvement of the adolescent with the parent and the growing affiliation with others (e.g., peers and friends) (Hock, Eberly, Bartle-Haring, Ellwanger, & Widaman, 2001).

Research has shown that parental separation anxiety has negative repercussions for the quality of parent-adolescent relationships and,

ultimately, for adolescents' psychosocial adjustment. Hock et al. (2001), for instance, showed that parental anxiety about distancing, which is a core feature of separation anxiety, relates to conflict and to insecure attachment in parent-adolescent relationships. Further, maternal separation anxiety was found to relate to adolescents' identity deficits and to disturbances in the separation-individuation processes (Bartle-Haring, Brucker, & Hock, 2002; Kins, Soenens, & Beyers, 2011). However, few studies have examined how separation anxiety is related to parents' style of interacting with their adolescent. This is unfortunate because this interaction style could explain why separation anxiety is related to the negative outcomes outlined above. Further, to the best of our knowledge, no studies to date relied on observational methods. In the present study we investigated associations between mothers' separation anxiety and their autonomy-supportive, relative to controlling, conversation style, observed during conversations with their adolescent about friendships. We also examined associations with mothers' emotional (i.e., tension, relief) and motivational (i.e., reasons) experiences during the conversation. Finally, we investigated whether the hypothesized negative effects of parental separation anxiety would become especially salient under high pressure circumstances. That is, we sought to investigate whether mothers high on separation anxiety would be more sensitive to a pressuring message in which parents are made accountable for the well-being and amount of information retrieved from their adolescents.

Separation Anxiety and Autonomy-Supportive, Relative to Controlling, Parenting

A number of studies addressed the question whether parental separation anxiety is related to autonomy-suppressing and controlling parenting. The reasoning behind these studies is that separation anxiety may elicit controlling attempts to inhibit the adolescents' age-appropriate independent behavior. Controlling parenting would be used in an attempt to remain in close contact with the child. Consistent with this reasoning, it has

been shown that parental separation anxiety is related to measures of parental psychological control (e.g., Kins et al., 2011; Soenens, Vansteenkiste, Duriez, & Goossens, 2006; Soenens, Vansteenkiste, & Luyten, 2010), an intrusive and manipulative parenting dimension expressed via guilt-induction, love withdrawal, and shaming (Barber, 1996; Soenens & Vansteenkiste, 2010). As such, it appears that parents' intolerance of their adolescents' increasing individuation increases the odds of using controlling tactics that manipulate the parent-child bond and that pressure the child to remain within close physical and emotional proximity.

The present study aims to build on this research in a number of ways. First, rather than focusing exclusively on the dimension of psychological control, we examined associations between parental separation anxiety and the broader dimension of parental autonomy-support relative to parental control. In Self-Determination Theory (SDT; Deci & Ryan, 2000), this parenting dimension is considered crucial to foster development because it satisfies children's basic psychological needs for autonomy, competence, and relatedness (Grolnick, Deci, & Ryan, 1997; Joussemet, Landry, & Koestner, 2008). Autonomy-support is defined as the degree to which parents promote volitional functioning and self-endorsement in children (Grolnick et al., 1997; Soenens et al., 2007). To do so, autonomy-supportive parents try to relate to the child's frame of reference, allow desired choices when possible, encourage self-initiation, and provide a meaningful rationale for a request. Autonomy-supportive parenting can be contrasted with controlling parenting, which in SDT is defined as parenting that is pressuring and domineering in nature (Assor, Roth, & Deci, 2004; Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). Controlling parenting can be manifested through the reliance on externally controlling techniques that pressure the child from the outside (e.g., threats; yelling) or more internally controlling techniques that pressure the child from within. In the latter case, parents appeal to internally pressuring feelings such as guilt,

shame, and anxiety, for instance through the expression of disappointment or through adopting a conditionally approving attitude.

Second, whereas most previous studies were limited to the use of self-reports of parenting dimensions, the current study included ratings of observed parenting, which has several advantages. Methodologically, it allows for a more conservative test of the hypothesized association with maternal separation anxiety, as associations obtained between variables are not influenced or inflated by factors such as response tendency, social desirability, or shared method variance. Further, observation of autonomy-supportive, relative to controlling, parenting can yield more precise insight in the way this parenting dimension manifests in actual parent-adolescent conversations. Such insight is important, not only from a conceptual viewpoint, but also from a practical viewpoint as it informs parents and practitioners in greater detail about how to adopt an autonomy-supportive approach in interaction with adolescents.

Third, rather than relying on a generic measure of maternal conversation style, we focused on mothers' conversation style in the context of a specific and separation-relevant theme, that is, adolescent activities and affiliations with their friends. For separation-anxious parents, such relationships outside the family context may pose a threat to the parent-child bond. Driven by their fear of separation, mothers high on separation anxiety may want to obtain more detailed information about these activities and friends, may use more threatening language to warn for the risks of affiliating with certain friends, and may more easily express their disappointment about the increasing distance of their adolescents. In doing so, parents are more likely to be meddlesome, controlling, and autonomy-suppressing, as they intrude upon their children's private territory. Indeed, research in the context of Social Domain Theory has shown that adolescents consider friendships and peer relations as personal matters over which parents have little legitimate authority (Kakihara & Tilton-Weaver, 2009; Smetana, Metzger, Gettman, & Campione-Barr, 2006). In sum, we

hypothesized that maternal separation anxiety would be associated with a less autonomy-supportive and a more controlling conversation style during an interaction about adolescents' friendships.

Maternal Separation Anxiety and Experiences During the Conversation

Apart from examining mother's conversation style, we also tapped into mothers' emotional and motivational experiences during the conversation. First, mothers may differ in how they experience the conversation emotionally, as reflected in the tension they experience during the conversation and the relief they feel at the end of the conversation. We hypothesized that separation-anxious mothers would experience a conversation regarding adolescents' friendship affiliations as causing more distress and tension and that they would be more relieved when the potentially threatening situation has ended, that is, when the conversation about friendships is over. Indirect evidence for this reasoning comes from research demonstrating that anxious attachment (which is characterized by heightened separation anxiety; Mikulincer & Shaver, 2003, 2007) relates to elevated levels of emotional distress when discussing separation-related topics and when encountering situations involving actual separation (Feeney & Kirkpatrick, 1996).

Apart from these different emotional experiences, mothers may differ in their reasons to connect with their children and to engage in the conversation. As articulated in SDT, these reasons can vary in their level of autonomy and volition (relative to control and pressure). Four different reasons are distinguished (Deci & Ryan, 2000; Ryan & Connell, 1989). First, mothers may engage in the conversation with their child for externally pressuring reasons (i.e., external reason), for instance, to meet the demands held by others or to avoid being criticized. Second, mothers can also engage in the conversation out of internally pressuring reasons (i.e., introjected reason), for instance, because otherwise they would feel guilty or because they believe that this is what good mothers should do. Third, mothers can

engage in the conversation because they see the personal value of having a conversation about the friendship affiliations of the child (i.e., identified reason). Finally, mothers can enjoy talking with their child about his or her friends, just because they are interested and find it fun to do so (i.e., intrinsic reason). As mothers high on separation anxiety would interpret adolescents' growing number of affiliations with others outside the family context as a threat for the mother-child bond (Hock et al., 2001), the request to talk about these affiliations might be perceived as more pressuring for them. Therefore, we expect that separation-anxious mothers would report more external and introjected reasons of engaging in the conversation, rather than identified and intrinsic reasons.

The Interplay Between Maternal Separation Anxiety and Pressure From the Outside

Parents' likelihood of engaging in an autonomy-suppressing, relative to a controlling, conversation style may be rooted not only in pressures arising from within parents' own functioning (such as separation anxiety) but also in contextual pressures (Belsky, 1984; Grolnick & Apostoleris, 2002). One particular type of contextual pressure involves the message conveyed to parents by different actors in society that parents are responsible or even accountable for their child's development and behavior. In this context, Wuyts, Vansteenkiste, Soenens, and Assor (in press) showed that parents who experience social pressure to rear high-achieving children report to engage more often in controlling parenting. Further, Grolnick et al. (2007) experimentally manipulated contextual pressures by informing mothers that their child would be evaluated on his or her social skills during an interaction with other children. This manipulation of social pressure led mothers to interact with their children in a more controlling fashion prior to the child's interaction with other children. In the present study, we experimentally induced pressure on parents in the domain of peer affiliations and friendships

by stressing that it is the responsibility of a good mother to be informed about the child's friendships.

Because Grolnick and Apostoleris (2002) emphasized that different types of pressure may interact in the prediction of parental behavior, it was deemed important to examine the interplay between maternal separation anxiety (i.e., internal pressure) and experimentally induced social pressure (i.e., pressure from the outside) on maternal experiences and behavior. This is because the pressures put on mothers may be perceived and coped with differently depending on certain maternal characteristics. Specifically, due to differences in awareness and sensitivity to threats, mothers may perceive an objective threat or pressure as more or less threatening and cope differently with the stressor (Weinstein & Ryan, 2011). Herein, we hypothesize that mothers high on separation anxiety are more prone to buy into the message that they are responsible to be informed about their child's friendships and, as such, are more likely to experience this message as pressuring and threatening. Accordingly, mothers high on separation anxiety would be more likely to respond to the induced social pressure with negative emotional and motivational experiences and with a more autonomy-suppressing and controlling conversation style. Indirect evidence supporting this reasoning stems from the attachment literature. Several studies showed that anxiously attached individuals display a heightened sensitivity for threat-related cues (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer, Gillath, & Shaver, 2002). Moreover, anxiously attached individuals react to threats by minimizing distance from others and by becoming clinging and intrusive in attempts to regain proximity with others (Feeney & Noller, 1990; Mikulincer, Orbach, & Iavnieli, 1998).

The Present Study

The present study had three main research aims. First, we examined whether mothers high on maternal separation anxiety would differ in the way how they communicate with their child during a conversation about the

child's friendships. Specifically, we expected that mothers high on separation anxiety would be less autonomy-supportive and more controlling during the conversation. Second, we examined the relation between maternal separation anxiety and mothers' personal emotional and motivational experiences during the conversation. We hypothesized that mothers high on separation anxiety would feel more tension during the conversation, would feel more relieved at the end of the conversation, and would have more pressuring (i.e., external and introjected) reasons to regulate their behavior. Third, we examined whether mothers high on separation anxiety would be particularly sensitive to an experimental induction of social pressure. Specifically, mothers high on separation anxiety are expected to experience more tension, to regulate their behavior on the basis of more pressuring reasons, and to use a more autonomy-suppressing conversation style under experimentally primed social pressure.

Although some evidence suggests that separation anxiety is relevant for both mothers and fathers (Bartle-Haring, et al., 2002), separation anxiety has been found to be more common among mothers (e.g., Kins et al., 2011; Wille, 1998) and has typically been studied in mothers. Because the present study is among the first observational studies to examine the role of separation anxiety in parental conversation style, we solely focused on mothers. Evidently future research on this topic also needs to include fathers.

Method

Participants

Participants were 62 Belgian (Dutch-speaking) mothers and their adolescent daughter or son. Mother-adolescent dyads were recruited through different channels, that is, via an announcement in a local newspaper (32%), via an invitation letter spread through the school of the adolescent (44%) or via other channels (e.g., a school newspaper and snowball sampling) (24%). Initially, 75 mother-adolescent dyads were invited to the laboratory. Because 12 of them did not show up at the appointment (16%), 63 dyads actually

participated in the study. One mother-adolescent dyad was excluded from the analyses because of their limited knowledge of the Dutch language.

On average, mothers were 44 years old (*SD* = 3.46; *range* = 37-55) and adolescents were 14 years old (*SD* = 1.19; *range* = 12-16) with a majority of them being female (77%). Most mothers were highly educated, as 90% obtained a college or university degree. Most of the adolescents followed an academic track (i.e., 80%), and 18% and 2% were attending a technical or vocational track, respectively. Seventy-three percent of the mothers were married or living together with the biological father of their child.

We reported on this sample in one previous contribution (see Chapter 6), in which we examined the consequences of an autonomy-supportive, relative to a controlling, maternal conversation style for children's disclosure and motives for disclosure during the conversation. While this previous contribution focused on the consequences of an autonomy-supportive conversation style, the present contribution focused on its antecedents (i.e., separation anxiety and experimentally induced social pressure). Both contributions have only one variable in common, that is, autonomy-supportive, relative to controlling, conversation style.

Procedure

The procedures employed during all phases of the study were approved by the Ethical Committee of Ghent University. The study was conducted by two researchers, who each met 31 mother-adolescent dyads. Mother-adolescent dyads received a written informed consent stating that their conversation would be videotaped. None of the 62 dyads refused participation. In a separate room, the mother provided demographic information and filled out some questionnaires, including the separation anxiety questionnaire (Hock, et al., 2001) described below.

Before the adolescent reentered the room, all mothers were informed that the study focused on adolescent disclosure of friendship information by

a recorded video-message of a Belgian professor in developmental psychology working at Ghent University. The use of a video-message yielded the advantage of a standardized experimental manipulation, while the choice of a university professor, who was presented as an expert on the topic of adolescent friendships, was meant to increase the credibility of the message presented. Each mother was assigned randomly to either a high-pressure (n = 32) or low-pressure (n = 30) condition. In the high-pressure condition mothers received a message from the professor emphasizing their accountability as a parent to be informed about their child's ongoing friendships (e.g., "It is mothers' responsibility to discuss the friendship affiliations of their child."; "Good mothers need to be informed about the activities of their child."), whereas in the low-pressure condition mothers were instructed in a more autonomy-supportive way stressing the possible enjoyably interaction with their child and reassuring that talking about friendships can sometimes be difficult (e.g., "It's not always easy to discuss the child's friendship affiliations."; "However, conversation can also be a pleasant and informational."). A full description of the manipulation can be obtained by contacting the authors of the study.

After having provided these condition-specific instructions in private to the mother, the adolescent was asked to reenter the room. On that moment mothers and adolescents were invited to have a 10-minute conversation regarding the adolescent's friendships. Specifically, we instructed both mother and adolescent to talk about the adolescent's friends, what they had done together the last two weeks, and how the adolescent experienced these friendship activities. Next, mothers completed a questionnaire about their experience of having the conversation with their child. Afterwards all participants were debriefed about the purpose of the study and were invited to an information session regarding the results of the study that took place half a year later.

Measures

All items of the self-report measures were rated on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Descriptive statistics and internal consistencies of all measures can be found in Table 1.

Separation anxiety. Prior to the conversation, we assessed maternal separation anxiety using six items from the Anxiety about Distancing (AAD) scale of the Parents of Adolescents Separation Anxiety Scale (PASAS; Hock et al., 2001). These items were selected on the basis of a factor-analysis on a large sample of mothers (N = 566; Soenens, et al., 2006). Cronbach's alpha of this 6-item scale in the Soenens et al. (2006) dataset was .77 and the correlation between this shortened scale and the original 21-item scale was $r(540) = .91$, $p < .001$. The ADD scale measures parents' negative emotions experienced in response to their children's increasing independence and imminent leave-taking (e.g., " I feel sad when I realize my teenager no longer likes to do the things that we used to enjoy doing together.").

Tension during the conversation. Maternal tension was measured by three items derived from the Positive and Negative Mood Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Mothers reported how tense (i.e., nervous, stressed, tense) they had felt after receiving the task instructions (i.e., the manipulation).

Relief at the end of the conversation. Mothers were provided a questionnaire with three items measuring their feelings of relief at the end of the conversation. These items were developed for this study (e.g., "The end of the conversation felt as a relief.").

Reasons for engaging in the conversation. To measure mothers' reasons for engaging in the conversation with their child, we adapted the Self-Regulation Questionnaire (SRQ; Ryan & Connell, 1989). This questionnaire was administered after the conversation. The questionnaire started with an item stem reading "During the past conversation, I asked my child to tell me about his friends and their activities because … ". Following this stem, mothers were asked to rate items tapping into four different

reasons, that is, external (e.g., "… I felt forced to do so."; 4 items), introjection (e.g., "… otherwise I would feel bad about myself."; 4 items), identification (e.g., "…I understand why this is important."; 4 items) and intrinsic reasons (e.g., "…I like to share things with my child."; 4 items).

Observed autonomy support relative to control. All conversations were videotaped and rated using a specific coding system designed to observe autonomy-supportive and controlling parental behaviors during conversations with adolescents (see Chapter 6). The ten minute conversation was broken down into five 2-minute intervals. Within these intervals, items tapping into autonomy-supportive and controlling practices were rated on a scale ranging from 1 (*totally absent*) to 7 (*strongly present*). The final coding scheme consisted of 17 items, 8 of which were tapping into autonomy-supportive behaviors, and 9 of which were tapping into controlling behaviors. More detailed information about the content and validity of the coding system is provided in Chapter 6. To create a composite score for observed autonomy-supportive, relative to controlling, conversation style, we averaged all items, thereby reverse coding the controlling items. One rater (i.e., the first author) scored all items of the coding scheme for all videotapes. A second rater independently scored a random sample of 41 videotapes (i.e., 66%). The inter-rater intra-class correlation of the total score was .72 ($p < .001$).

Results

Preliminary Analyses

Background variables. We first conducted a multivariate analysis of covariance to explore whether background variables were associated with the study variables and should be controlled for in the main analyses. None of the background variables had a significant multivariate association with the study variables; adolescent gender (Wilks' Lambda = .85, $F(8, 44) = 0.95$, $p = .487$), adolescent age (Wilks' Lambda = .86, $F(8, 44) = 0.87$, $p = .551$), adolescent educational level (Wilks' Lambda = .84, $F(8,44) = 1.06$, p

Table 1

Descriptive Statistics, Internal Consistencies, and Correlations Between Separation Anxiety, Tension During and Relief at the End of the Conversation, Reasons for Engaging in the Conversation, and Observed Autonomy-Supportive Conversation Style

	M (*SD*)	α	1.	2.	3.	4.	5.	6.	7.	8.
1. Separation anxiety	2.32 (.83)	.85	-							
2. Tension	1.37 (.62)	.82	.34**	-						
3. Relief	1.53 (.77)	.87	.29*	.34**	-					
4. Intrinsic reasons	4.60 (.52)	.86	.04	-.06	-.42**	-				
5. Identified reasons	4.17 (.75)	.82	.14	-.10	-.16	.65***	-			
6. Introjected reasons	2.01 (.94)	.75	.46***	.22+	.21	.14	.31*	-		
7. External reasons	1.65 (.72)	.74	.36**	.23+	.41**	-.13	-.15	.45***	-	
8. Observed autonomy-supportive, relative to controlling, conversation style	4.97 (.40)	.92	-.42**	-.23+	-.41**	.06	-.12	-.10	-.18	-

+ $p < .10$ *$p < .05$ **$p < .01$ ***$p < .001$

= .409), maternal age (Wilks' Lambda = . 74, $F(8, 44) = 1.93$, $p = .079$), maternal educational level (Wilks' Lambda = . 85, $F(8, 44) = 0.96$, $p = .475$), family structure (Wilks' Lambda = . 85, $F(8, 44) = 0.98$, $p = .462$), and number of children in the family (Wilks' Lambda = . 86, $F(8, 44) = 0.88$, $p = .540$).

Randomization. To examine whether participants in the two conditions differ in terms of background variables and in terms of separation anxiety (which was assessed prior to the manipulation), we first performed a multivariate analysis of variance with condition as a fixed factor and with maternal separation anxiety and the continuous background variables (adolescent age, adolescent education level, maternal age, maternal education level, and number of children in the family) as dependent variables. There were no between-condition differences in terms of the continuous background variables and maternal separation anxiety, Wilks' Lambda = .86, $F(6, 55) = 1.50$, $p = .197$. To examine the association between condition and the categorical background variables (adolescent gender and family structure), we conducted two chi-square tests; there were no between-condition differences in terms of adolescent gender distribution (Pearson $X^2(1, 62) = .02$, $p = .891$) and family structure distribution (Pearson $X^2(1, 60) = .00$, $p = 1.00$). In conclusion, the randomization was successful.

Primary Analyses

Relation of maternal separation anxiety with the outcomes. We inspected the correlations between maternal separation anxiety and the various self-reported or observed outcomes. Results are presented in Table 1. Maternal separation anxiety was related negatively to observed maternal autonomy support relative to control. In addition, maternal separation anxiety was associated positively with mother-reported tension, relief at the end of the conversation, introjected and external reasons, but was unrelated to identified and intrinsic reasons for engaging in the conversation.

Table 2

Regression Coefficients of Main and Interaction Effects of Induced Pressure and Separation Anxiety on the Outcomes

	Induced pressure	Separation Anxiety	Interaction
Emotional experiences			
Tension	.23*	.18	.38**
Relief	.02	.29*	.01
Motivational experiences			
Intrinsic reasons	.09	-.01	.12
Identified reasons	.17	.08	.07
Introjected reasons	.08	.37**	.22+
External reasons	.03	.35*	.02
Observed autonomy-supportive, relative to controlling, conversation style	.08	-.45**	.03

+ $p < .10$ *$p < .05$ **$p < .01$

Effect of condition on the outcomes. We conducted a series of analyses of variance with condition as a fixed factor and the self-reported or observed outcomes as dependent variables. Only for reported tension, a significant main effect of condition emerged ($F(1, 59) = 4.11$, $p = .047$, $\eta^2 = .065$). Inspection of the means revealed that mothers in the high-pressure condition reported more tension ($M = 1.53$, $SD = .77$) than mothers in the low-pressure condition ($M = 1.21$, $SD = .37$).

Interactions between maternal separation anxiety and condition. To investigate the effects of maternal separation anxiety and the experimental manipulation of pressure, together with their possible interaction, we performed multiple regression analyses, following the procedures outlined by Aiken and West (1991). Scores for maternal separation anxiety and condition were standardized and their interaction was computed as the product of the standardized scores. Each dependent variable was regressed first on the (standardized) main effects of separation anxiety and condition and second on the interaction term. The results of these regression analyses are shown in Table 2.

Consistent with our hypotheses, separation anxiety yield a negative association with observed autonomy support and a positive association with relief at the end of the conversation as well as with both introjected and external reasons for engaging in the conversation. Further, the effect of the pressure induction on tension was found to be moderated by separation anxiety. As can be seen in Figure 1, only mothers high on separation anxiety (based on a median split) were susceptible to the pressure induction ($F(1, 32) = 4.22$, $p = .048$, $\eta^2 = .117$). Those low on separation anxiety did not report any different degree of tension in the low-pressure compared to the high-pressure, condition ($F(1, 25) = 0.22$, $p = .644$, $\eta^2 = .009$). The interaction on introjected reasons for engaging in the conversation mirrored the one obtained for tension, although the interaction was only marginally significant.

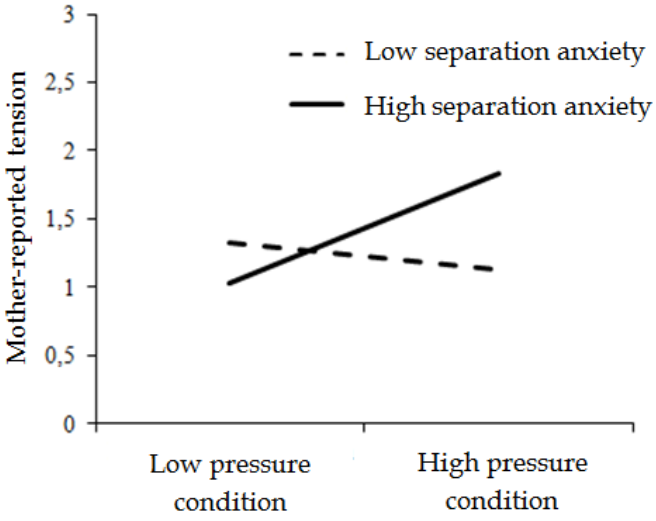

Figure 1. Interaction between induced pressure and separation anxiety on mother-reported tension.

Discussion

There is a paucity of research investigating the repercussions of parents' feelings about separation from their adolescents on parents' motivational and emotional experiences during parent-adolescent conversation and on parents' way of communicating with their adolescents about a potentially sensitive topic as friendships (Hock et al., 2001). This is somewhat surprising as adolescence is a time when not only adolescents but also parents face important challenges related to the separation-individuation process (Cooper & Grotevant, 2011; Youniss & Smollar, 1985). This study examined the role of maternal separation anxiety in mothers' personal experiences and their use of an autonomy-supportive, relative to a controlling, conversation style during a mother-adolescent conversation about a topic that might be perceived as a threat to the mother-child bond, that is, adolescents' friendship affiliations. It was also examined whether mothers scoring high on separation anxiety would have a heightened sensitivity to externally induced pressure, that is, a message stressing a mother's responsibility to be informed about their child's friendships.

Separation Anxiety and Mothers' Conversation Style

The first and central aim of this study was to examine the repercussions of a separation-anxious orientation for mothers' communication style with their child during a conversation. As expected, mothers high on separation anxiety were observed to engage in more controlling and less autonomy-supportive parenting behaviors during the conversation. This finding is consistent with the argument that intrapersonal pressure (i.e., pressure stemming from parents' own functioning) may make parents more controlling and less open to be supportive for their adolescent's need for autonomy (Belsky, 1984; Grolnick & Apostoleris, 2002). Mothers high on separation anxiety may feel pressured from within to keep their child within close physical and emotional proximity. Driven by feelings of anxiety, they may perceive the use of controlling parenting strategies as a means to achieve their desired goal, that is, avoiding abandonment and rejection by their adolescent child. Unfortunately, in doing so, mothers high on separation anxiety behave in an intrusive and clinging style, thereby manipulating the attachment relationship with their child (Soenens et al., 2010).

The findings of this study converge with findings from previous questionnaire-based studies showing a robust association between parental separation anxiety and controlling parenting (Kins et al., 2011; Soenens et al., 2006; Soenens et al., 2010). However, it is the first time that mothers' autonomy support is addressed next to their degree of control in relation with maternal separation anxiety. Moreover, our study adds to this literature by relying on an observational measure of mothers' conversation style. Such a measure helps to avoid problems associated with retrospective bias and social desirability and provides a more objective and precise picture of mothers' behavior when interacting with their child.

The finding that maternal separation anxiety is related to an autonomy-suppressing and controlling conversation style suggests that separation anxiety may ultimately affect adolescents' experiences and

psychosocial development. Indeed, an autonomy-suppressing parenting dimension is known to predict detrimental emotional and behavioral outcomes in adolescents (Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). Specifically in the context of parent-adolescent conversations, it has been shown that autonomy-suppressing parenting is related to less adolescent disclosure and decreased quality of affect experienced by both conversation partners (Wuyts et al., in press). As such, our findings suggest that, although mothers high on separation anxiety may engage in well-intended efforts to make their adolescent depend on them, ironically such efforts are detrimental because adolescents' experiences of pressure to maintain close contact may come with an emotional cost. Ultimately, the use of controlling parenting might backfire even more and increase (rather than decrease) parent-adolescent distancing because controlling parenting has been found to predict adolescent defiance against parental authority (Van Petegem, Soenens, Vansteenkiste, & Beyers, in press). Consequently, parental separation anxiety and the use of autonomy-inhibiting parenting associated with it is likely to hinder adolescents' healthy separation over time (Ponappa, Bartle-Haring, & Day, 2014).

Maternal Separation Anxiety and Mothers' Personal Experiences

A second aim involved examining how parents high on separation anxiety would experience a conversation with their child about friendship. As hypothesized, mothers with higher levels of separation anxiety generally experienced the conversation as more stressful: they reported more pressured or controlled (i.e., external and introjected) reasons for engaging in the conversation to begin with; they felt more tension during the conversation; and, finally, once the conversation was over, felt more relieved. Notably, separation anxiety was unrelated to autonomous (i.e. identified or intrinsic) reasons to participate in the conversation, suggesting that mothers high on separation anxiety do not derive less pleasure or value from engaging in these conversation. Taken together, although mothers high on separation

anxiety did not experience less pleasure or value when engaging in the conversation, they perceived the request to engage in a conversation regarding the adolescent's friendships as a daunting duty and as an obligatory task they felt very tense about.

Such findings are consistent with our hypothesis that, for parents high on separation anxiety, talking about the topic of peer relations and friendships constitutes a threat and a source of stress. The results are in line with research in adult romantic couples indicating elevated stress responses among anxiously attached individuals who are confronted with a situation of separation (e.g., Feeney & Kirkpatrick, 1996; Mikulincer & Shaver, 2003). An interesting avenue for future research is to examine associations between maternal separation anxiety and mothers' attachment representations. Possibly, maternal separation anxiety plays an important role in the intergenerational transmission of attachment and of anxious attachment in particular.

The Interplay between Separation Anxiety and External Threats

Although it has been argued repeatedly that different sources of influence may interact in the prediction of parents' behavior (Belsky, 1984; Grolnick & Apostoleris, 2002), relatively few studies so far have addressed the interplay between parental personality and social-contextual influences on autonomy-supportive, relative to controlling, parenting (for an exception, see Grolnick et al., 2007). In this study, we explored the possibility that mothers high on separation anxiety (i.e., internal pressure) would be particularly sensitive to a message that parents are responsible for their children's development (i.e., pressure from the outside). According to Grolnick and Seal (2008), parents are confronted increasingly with this message through different social channels, including the media (e.g., popular handbooks on parenting) but also through more proximal sources, such as other parents or the school board.

The present study provides some evidence that maternal separation anxiety interacts with external pressure, which was induced experimentally by highlighting mothers' responsibility to be informed about their child's friendships. Mothers high on separation anxiety reported feeling more tense during the conversation and reported more internal pressures (in terms of introjected reasons) to engage in the conversation when they were exposed to the high-pressure induction. This set of findings suggests that an ambivalent attitude was elicited among separation-anxious mothers who were pressured from the outside: they may have seen the conversation both as an opportunity to prove their parenting skills, thereby eliciting an approach tendency, but also a potential threat which elicits guilt and anxiety for being unable to meet expectations regarding effective parenting, thereby eliciting an avoidance tendency. More broadly, our findings are consistent with theory and research indicating that coping with a possible stressful situation is a function of personal and situational factors (Lazarus, 1999). Specifically, these findings suggest that intrapersonal characteristics (i.e., level of separation anxiety) have an impact on mothers' appraisal of a stressor (i.e., the experimental manipulation highlighting mothers' responsibility).

It should be noted, however, that the number of interactions obtained was small. Also, we found little evidence for main effects of experimentally induced pressure on the outcomes. In fact, the main effect of experimentally induced pressure on reported tension only held for mothers high on separation anxiety. One interpretation of this finding is that parents' personality functioning is a stronger and more proximal determinant of parental behavior than social-contextual influences. Belsky (1984), for instance, argued that parents' personality is the most important antecedent of parenting and a meta-analysis suggests that associations between parental personality and parenting are indeed substantial (Prinzie, Stams, Dekovic, Reijntjes, & Belsky, 2009).

Yet, before drawing that conclusion, one needs to be certain the manipulation was truly effective. Given that the high pressure induction only elicited tension among mothers high on separation anxiety, the experimental induction was only partially effective. The weak effects of the experimental manipulation may due to several features of the manipulation itself. First, as the message used to prime mothers' feelings of responsibility was delivered by an authority figure (i.e., a university professor), this message may have been experienced as rather distal and not personally relevant. At least some mothers may even have displayed reactance against the message, precisely because it was provided by an unfamiliar authority figure. Research in the domain of health care has shown that individuals are less motivated to change their behavior when requests are made by an authority figure, whereas they are more motivated to take up their responsibility when someone in their proximal context requested the same change (Pavey & Sparks, 2009). Second, the absence of a main effect of pressure may be due to variability in the perceived relevance of the message for the receiver (i.e., the mother). While the message may have triggered anxiety in some mothers (especially those high on separation anxiety), for other mothers the message may not have been meaningful or may have conveyed relatively unnecessary advise, for instance because they already have a lot of knowledge about their adolescents' friendship affiliations or because they are aware of the importance of conversations with their adolescents. Third, maybe the content of the message was not strong enough to influence maternal behavior. A stronger message, including more explicit controlling and guilt-inducing language, may be needed in order to observe an effect. Clearly, future research is needed to clarify the reason(s) for the relative lack of main effects of experimentally induced pressure on maternal experiences and parenting.

Limitations and Future Research

The current research has some limitations. First, we focused on mothers only, thereby neglecting the potential role of separation anxiety in

fathers. Although recent research indicates that separation anxiety is especially salient in the mother-adolescent relationship (Kins, Soenens, & Beyers, 2013), other research has demonstrated the unique detrimental effects of paternal, in addition to maternal, separation anxiety on relationship quality and adolescent well-being (i.e., Hock et al., 2001; Soenens et al., 2006).

Second, due to the cross-sectional nature of our study, we were unable to examine reciprocal processes between mothers and adolescents. It is possible that mothers and adolescents have a mutually reinforcing effect on each other in terms of separation anxiety. Although a recent Social Relations Model (SRM) study by Kins et al. (2013) did not provide evidence for reciprocal processes, there is a need for short-term longitudinal studies and diary studies to examine in greater depth the possibility of bidirectional associations between mothers and adolescents.

Third, one may raise concerns about the generalizability of our study. With respect to our sample, the mother-adolescent dyads who decided to participate in the study might not fully represent the broader population. Indeed, our sample was relatively highly educated, and most adolescents were female. Furthermore, although the descriptive statistics of maternal separation anxiety in the present study were similar to those of other studies with larger, relatively unselective groups of participating mothers (e.g., Kins et al., 2011; Soenens et al., 2010), the present findings might be influenced by a bias in sampling. Hence, future research should rely on more heterogeneous and representative samples (e.g., Bornstein, Jager, & Putnick, 2013). Finally, future research needs to examine whether the heightened susceptibility for experiencing stress and for relying on a controlling conversation style among mothers high on separation anxiety also applies when mothers-adolescent dyads are asked to talk about different topics.

Practical Implications

From a practical perspective, our results suggest that maternal separation anxiety is an important target for intervention and prevention efforts aimed at promoting autonomy-supportive parenting. By increasing awareness of the role of separation anxiety in mothers' conversation style, mothers may become less likely to translate their feelings of separation anxiety into an autonomy-suppressing style. The coding scheme used in this study can also be used to inform practitioners and parents about specific controlling practices that can better be avoided during conversations about friendships (e.g., "Giving unsolicited advice and lecturing the adolescent.") and about specific autonomy-supportive behaviors that can be encouraged (e.g., "Allowing the adolescent to disclose at his/her own pace without immediately asking new questions when the conversations stops."). Doing so is important because autonomy-supportive parenting is key to foster trust and high-quality communication in parent-adolescent relationships and to promote adolescents' psychosocial adjustment more generally.

Conclusion

The present research showed that maternal separation anxiety was related to the use of an autonomy-suppressing and controlling conversation style among mothers, at least when discussing the topic of friendships with their adolescent. Maternal separation anxiety was also related to controlled reasons for initiating the conversation, tension during the conversation, and relief after the conversation. As such, the costs of separation anxiety were not limited to the way the mothers communicated with their children but also manifested in their personal emotional and motivational experiences. Further, mothers high on separation anxiety were somewhat more likely to buy into the message that they are responsible to be informed about their child's friendships, as they reported even higher levels of tension and internally pressured reasons for the conversation when confronted with this message.

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Chapter 8

General Discussion

The present dissertation investigated the role of pressure on parents. On the basis of the results obtained in this dissertation, some general conclusions are presented in this final chapter. Some of these conclusions are broader than the conclusions drawn from the detailed reports of the results presented in the previous chapters. We start by generally discussing the main findings of the dissertation in the light of the four goals identified in the general introduction. Then, broader implications for theory, practice and policy are discussed. The chapter ends by formulating limitations of the current dissertation and by providing suggestions for future research.

General Overview of the Findings of the Dissertation

Pressuring forces on parents' functioning are said to limit parents' time and psychological availability to be open and responsive for their children's needs (Belsky, 1984; Grolnick, 2003). As a result, parents would become more directive, thereby pushing the child towards parent-desired outcomes. Unfortunately, such a controlling parental approach backfires on children's well-being, performance, and social adjustment (Soenens & Vansteenkiste, 2010). Consequently, the question "What makes parents controlling?" arises. This question has received little attention in the existing literature as there is a paucity of research investigating the repercussions of the role of pressure arising from within parents' personal functioning, from parents' social environment, or from the child's competence level. The general aim of the present dissertation was to garner more knowledge about the role of pressure on parents' use of a controlling interaction style with children. More specifically, in the Introduction of this dissertation, we identified four gaps in the literature on the antecedents of controlling relative to autonomy-supporting parenting, which we aimed to address throughout the presented six empirical chapters. In what follows, these gaps are readdressed and discussed in terms of the findings obtained. We draw conclusions on these goals separately for the two domains in which we studied dynamics of parenting, that is, the achievement domain (Part I) and the interpersonal domain (part II).

Addressing Goal 1: Understanding the Role of the Three Sources of Pressure as Distal Antecedents of Parenting.

A first goal of the present dissertation was to determine the influence of the three sources of pressure on parents' controlling relative to autonomy-supportive parenting.

The achievement domain. Throughout different chapters we examined the role of social pressure, the child's competence, and parents'

motivational orientation and unfulfilled dreams in parents' use of control relative to autonomy support.

The role of social pressure. The notion that parents increasingly feel pressured to rear successful and highly achieving children has been popular in the media (Grolnick & Seal, 2008). Yet, the present dissertation is among the first to address this idea empirically. Social pressure may result from different actors in one's social environment such as the media, the child's school, other parents, grandparents, and one's own partner. These different actors can hold parents accountable for their child's successes and failures such that parents feel pressured to make sure their children are successful. In the present dissertation, we developed a new self-report measure to assess social pressure experienced by parents. We demonstrated the reliability and validity of this measure tapping into 'social pressure to be an achievement-promoting parent' (Chapter 2, Pilot Study 2). Across different studies we found that parents who feel that people in their environment hold them accountable for their children's success are more likely to pressure their child to perform well. We found that this was the case both in Belgian and Chinese parents (Chapter 3). Yet, social pressure was only related to controlling parenting concurrently and did not predict increases in psychological control (Chapter 2, Study 2). Possibly, perceived social pressure from the environment is a relatively stable phenomenon that does not necessarily affect changes in controlling parenting. Finally, we investigated the effect of social pressure with an experimental approach thereby inducing varying levels of social pressure on parents who worked on a puzzle-task with their child. Social pressure was activated by informing parents that the puzzle activity was a reflection of their child's logical intelligence and that they were responsible for the successful functioning of their child. Under such circumstances, parents used more control while interacting with their child (Chapter 5). Interestingly, parents were particularly receptive for this induction of social pressure in the free-choice phase, that is, after they worked for ten minutes and then were left alone for

five minutes to freely work on the task or do something else. The delayed effect of induced social pressure on parents may be due to the fact that it took parents some time and deliberate reflection before the induced social pressure resulted in a source of controlling parenting behavior.

The role of child performance. The effect of child performance on parenting has appeared to be fairly complex. Some studies found that children's objective achievement level (i.e., their grades) are related to parents' controlling approach (e.g., Pomerantz & Eaton, 2001), while other studies indicated that parents' perception of the child's competence constitutes the driving force behind controlling parenting (e.g., Ng, Pomerantz, & Deng, 2014). In the present dissertation, we addressed the role of the child's objective achievement and parent perceived competence in controlling parenting simultaneously. We investigated their relation with parenting in a naturalistic context of a parent-teacher conference in which parents had received feedback concerning their child's school achievement (Chapter 2, Study 2). It appeared that only parents' perception of the child's competence was related to more controlling parenting and that the child's actual achievement did not make any significant contribution. Apparently, parents do not by definition react to their child's low achievement but only to the extent that they perceive the child's performance as a failure.

Second, in Chapter 5 we examined the effect of experimentally induced child's failure on the parent's behavior during a joint puzzle task. The child's performance was manipulated by varying the difficulty level of standards in the task (low versus high norms). Parents in the high norm condition (which resulted in child's failure) were observed to be more controlling compared to parents in the low norm condition (which resulted in child's success). Apparently, the child's objective failure to attain a set performance standard did evoke controlling parenting. At first sight, this finding seems to be in contrast with the finding (obtained in Chapter 2) that only parent's perceived competence mattered for parents' degree of control. It is important to note, however, that there was a more clear-cut distinction

between child's success and failure in the experimental context of Chapter 5 than in the naturalistic context of Chapter 2. While in the experimental study it was clear to parents whether the child meets the performance standards or not, in the naturalistic context of a parent-teacher conference the child's performance is less a black or white issue. Accordingly, it makes sense that in more naturalistic contexts, where the child's performance is not a perfectly dichotomous outcome, parents' perception of the child's failure relative to success is more critical. Presumably, these parental perceptions are likely determined by many factors including the parents' expectations, the child's functioning in the past and their exerted effort, the class average, and teacher- or school-related norms.

The role of parents' motivational orientation and unfulfilled dreams. Parents can differ in their motivational orientation of regulating behavior and perceiving the environment (Deci & Ryan, 1985). First, they can hold a controlled orientation, which refers to the regulation of behavior on the basis of internal and external demands and sensitivity to external expectations and pressures. Individuals scoring high on the controlled causality orientation are said to interact in a more defensive way with others (e.g., Hodgins, Koestner, & Duncan, 1996; Knee, Lonsbary, Canevello, & Patrick, 2005). Yet, the controlled orientation has never been investigated in the parenting context. We found that parents who score high on the controlled orientation use more control. This association was obtained when using parent reports (Chapter 2, Study 2), child reports (Chapter 2, Study 1), and observations (Chapter 5) of controlling parenting.

The controlled orientation can be contrasted with an autonomous orientation. An autonomous orientation is characteristic of individuals whose actions are grounded in self-endorsed values and interests (Deci & Ryan, 1985). Results on the association between this motivational orientation and parenting are more inconclusive. Although the autonomous orientation displayed negative correlations with parent-reported (Chapter 2) and observed (Chapter 5) control, these associations became non-significant

when controlling for the variance shared with the controlled orientation (Chapter 2) or when controlling for the variance shared with the others sources of pressure (Chapter 5) in a multiple regression analysis. Similar findings were reported in the domain of physical education (Van den Berghe et al., 2013).

In Chapter 3 we also studied a recently introduced concept, that is, parents' unfulfilled dreams (Brummelman et al., 2013). Whereas previous research has shown that parents' exposure to their own unfulfilled ambitions led to an increased *desire* for their child to redeem their unfulfilled dreams for parents who see their child as part of themselves, it remained unexamined whether such a desire translates into *actual* parenting practices. In the present dissertation, we demonstrated that when parents hold unfulfilled dreams they are more likely to translate these dreams into action, as they pressure their child to perform well. We found that this was the case regardless of whether this relation between unfulfilled dreams and controlling parenting was investigated in a sample of Belgian or Chinese parents (Chapter 3).

The interpersonal domain. In the next paragraphs we will discuss the role of social pressure and separation anxiety in mothers' use of control relative to autonomy support in the interpersonal domain.

Social pressure. In contrast to the achievement domain, we did not find an effect of an experimental induction of social pressure on controlling parenting in the interpersonal domain. Specifically, we observed mothers' parenting practices and interaction style during a conversation about their children's friendships. Mothers in the experimental condition (high social pressure) received a message stating that they were accountable for being informed about their child's friendships. In contrast to our prediction, mothers in this condition were *not* observed to be more controlling compared to mothers who did not receive this pressuring message (Chapter 7).

The absence of the effect of social pressure in the interpersonal domain may have been due to several features of the manipulation in this

domain. We highlight two important differences with the (more effective) manipulation of social pressure in the achievement domain. First, whereas parents were probably quite familiar with the task used in the experiment in the interpersonal domain (i.e., having a conversation about friendships), they were not familiar with the task used in the experiment in the achievement domain (i.e., a problem solving task). The more parents and adolescents have a history of doing an activity together the more difficult it may be to intervene through experimental induction in parents' style of interacting during the activity. Moreover, with regard to the experiment in the interpersonal domain, mothers who had talked a lot with their adolescent in the past and who felt that they already had a lot of knowledge about their adolescents' friendship affiliations may not have been very sensitive to the experimental message that it is important to be aware of your child's activities with friends. That is, they may have decided that the experimental message highlighting accountability was not applicable to them.

Second, in the interpersonal domain, the message used to prime mothers' feelings of responsibility was delivered by a videotaped authority figure (i.e., a university professor). This message may have been experienced as rather distal which may have triggered reactance against the message in some mothers, precisely because it was provided by an unfamiliar authority figure. In contrast, in the achievement domain, the manipulation was provided by the experimenter and was directed towards the parent more personally. This more direct way of delivering the experimental message may have led to stronger effects in the achievement domain.

Separation anxiety. Separation anxiety is characteristic of mothers who perceive the increasing independence of their child as a threat to the mother-child bond and who experience fear and distress when faced with a possible (signal of) their child's separation (Hock, Eberly, Bartle-Haring, Ellwanger, & Widaman, 2001). Research has already shown that separation anxiety is related to self-reported controlling parenting (i.e., Kins, Soenens,

& Beyers, 2011; Soenens, Vansteenkiste, Duriez, & Goossens, 2006). We demonstrated its association with observed autonomy-suppressing and controlling parenting practices. Specifically, mothers high on separation anxiety were observed to be more controlling and less autonomy-supportive (Chapter 7). Presumably, mothers high on separation anxiety felt that the topic of the conversation with their child (i.e., the child's friendships) was a threat to the mother-child bond and perceived the use of controlling and autonomy-suppressing parenting strategies as a means to achieve their desired goal, that is, avoiding mother-child distancing.

The interplay of different pressures in the achievement and interpersonal domain. One of the strengths of the present differentiation is that we simultaneously addressed the role of different sources of pressure in parenting, both in the achievement (Chapter 5) as in the interpersonal (Chapter 7) domain. As a consequence, we were able to examine the interplay of these pressures in the prediction of parenting. Although each of the three sources of pressure may interact with each other in the prediction of parents' behavior, parents' own motivational orientation in the achievement domain and their separation anxiety in the interpersonal domain, were considered the most probable moderators of the effects of the other sources of pressure (Belsky, 1984). However, nor in the achievement domain (Chapter 5) nor in the interpersonal domain (Chapter 7), did we find evidence for a moderating role of parents' personal functioning in effects of the other pressure on parents' interaction style.

This is surprising as we had predicted that pressure on parents resulting from their personal functioning would be key to exacerbate or attenuate the pressure resulting from the other sources (i.e., social pressure or child's competence pressure). Possibly, parents' personal functioning plays a stronger moderating role in the micro-processes leading to controlling parenting rather than directly on parental engagement in a controlling style. For instance, parental personality may affect parents' appraisals of a situation or message as being threatening versus more

informative or challenging. Both in Chapter 5 and in Chapter 7 we obtained some evidence that personality affected the degree to which contextual pressure was associated with feelings of tension, indicating that personality may indeed play a role in the degree to which contexts are perceived as threatening. These effects will be discussed in greater detail below (Goal 3). Further, other personality factors more directly relevant to the tasks at hand (e.g., self-critical perfectionism, ability beliefs, and personal feelings of competence regarding the task involved) may play a stronger moderating role in the relation between the other pressures and parenting.

Addressing Goal 2: Understanding the Effects of Distal Pressures on Controlling Parenting: The Role of Parental Child-invested Contingent Self-esteem

Our second goal was to examine the mediating or moderating role of parental child-invested contingent self-esteem in relation between the three discussed distal pressures and parenting. This goal was pursued only in the achievement domain.

Parental child-invested contingent self-esteem: A road to controlling parenting. Parental child-invested contingent self-esteem refers to parents' inclination of their self-esteem contingent on child's achievement outcomes. When the child performs well, parents' self-worth is aggrandized, whereas the child's failure causes parents to feel miserable about themselves. Parental child-invested contingent self-esteem was hypothesized to increase parents' susceptibility to engage in controlling parenting behaviors. In Chapter 2 and 3 we found convincing evidence for this hypothesized link. The use of controlling parenting strategies might be perceived by parents high on child-invested contingent self-esteem as a cost-efficient short-cut to achieve their desired goal, that is having a successful child and, in doing so, boosting their own self-worth. Moreover, we demonstrated that increases in parental child-invested contingent self-esteem developed in tandem with increases in controlling parenting over time (Chapter 2, Study 2). Further, in

a cross-cultural comparison among Belgian and Chinese parents, we showed that, regardless of parents' country of residence, the more parents' self-worth is implicated in the performance of their child, the more parents are inclined to use controlling practices to push their child to achieve well (Chapter 3).

We also addressed the role of parental child-invested contingent self-esteem in parents' promotion of extrinsic goals in their child rearing (Chapter 4). The child's attainment of extrinsic goals such as financial success and physical attractiveness would be conceived by parents high on child-invested contingent self-esteem as a socially approved and very visible indicator of the child's success. That is, parents high on child-invested contingent self-esteem may anticipate more social recognition and a stronger boost to their own ego when their child aspires to and eventually attains extrinsic goals. In line with this reasoning, we found that parental child-invested contingent self-esteem was related to adolescent-perceived maternal promotion of extrinsic goals. This relation emerged even when taking into account the variance shared between the promotion of extrinsic goals and mothers' use of a controlling parenting style.

Parental child-invested contingent self-esteem as a mediator or as a moderator in the relation between the distal pressures and controlling parenting. In the next paragraphs, we will discuss the mediating (Chapter 2 and 3) or moderating (Chapter 4) role of parental child-invested contingent self-esteem in effects of more distal sources of pressure on controlling parenting herein. While a mediating role involves that parental child-invested contingent self-esteem would represent the underlying mechanism why the distal sources of pressure translate into controlling parenting, a moderating role means that parental child-invested contingent self-esteem would determine when the distal sources of pressure result in controlling parenting and when they do not.

Throughout different chapters we obtained rather convincing evidence for a mediating role of parental child-invested contingent self-esteem in the relation between social pressure and parents' personal

functioning with controlling parenting. Specifically, we showed that social pressure is related to parents' child-invested contingent self-esteem which, in turn, is related to more controlling parenting (Chapter 2 and 3). This mediation sequence was demonstrated in both Belgian and Chinese parents (Chapter 3) and suggests that when Belgian as well Chinese parents perceive social pressure in their environment to be responsible of rearing a high achieving child, their self-worth become more depending on their child's performance, which in turn leads them to be more controlling with their child.

As regards parents' personal functioning, we showed that parents' controlled orientation (Chapter 2) as well as their unfulfilled dreams (Chapter 3) were related to parental child-invested contingent self-esteem which, in turn, was related to more controlling parenting. This mediation process suggests that pressures in parents' personal functioning increase the insecurity of their self-worth as a parent. This fragile sense of self-worth made parents turn to a controlling approach towards the child in the hope that their offspring's achievements would boost their self-worth. The mediating role of parental child-invested contingent self-esteem on effects of parents' unfulfilled dreams was also equivalent among Belgian and Chinese parents (Chapter 3). Because, unexpectedly child's performance level was *not* associated with child-invested contingent self-esteem (Chapter 2, Study 2), we could not examine the mediating role of parental child-invested contingent self-esteem in associations between the child's performance and controlling parenting.

We also investigated the possible moderating role of parental child-invested contingent self-esteem. With respect to social pressure, we found some evidence for moderation in some of our samples (see Chapter 2 and 3, Footnotes). For instance, we found that mother-reported social pressure related to controlling parenting especially for those mothers high on child-invested contingent self-esteem (Chapter 2, Study 2). However, taken together, it appears that the moderating role of child-invested contingent

self-esteem is rather minimal and that there is more solid evidence for the mediating role. Further, no evidence was found for a moderating role of parental child-invested contingent self-esteem in the relations of parents' personal functioning (controlled orientation in Chapter 2 and unfulfilled dreams in Chapter 3) with controlling parenting. Neither did parental child-invested contingent self-esteem moderate the relation between the child's level of performance and controlling parenting (Chapter 2, Study 2).

To conclude, parental child-invested contingent self-esteem operates mainly as a mediator in the relation of social pressure and parents' own functioning with their use of control. The more parents perceive pressure from their social environment to rear a successful child and the more they function from a controlled orientation or on the basis of regret for having failed to realize important personal dreams, the more their self-worth is implicated in the performance of their child. Such a fragile form of self-worth then translates into parents' use of controlling practices that push their child to achieve well.

Although not a central aim of this dissertation, we also inspected the role of parental child-invested contingent self-esteem in the relation between parents' own extrinsic goal strivings and their promotion of extrinsic goals as perceived by the adolescent. Parental child-invested contingent self-esteem did play a moderating role in this specific association (Chapter 4). Specifically, we found that the association between mothers' own extrinsic goals and their (adolescent-perceived) promotion of those goals was significant only among mothers high on child-invested contingent self-esteem. Mothers who strive to enhance their self-worth through the child's successes and who at the same time believe that extrinsic goal pursuit is the path to happiness and success seem to be particularly likely to highlight the importance of extrinsic goals in their communication with the child.

Addressing Goal 3: From Pressure on Parents to a Broad Variety of Outcomes

Another novel aspect of the present dissertation involved the examination of the question whether the different types of pressures on parents have a cost for a broad variety of outcomes directly or indirectly via the activation of a more controlling interaction style.

Broadening the scope of outcomes. So far, we paid attention to the relation between pressures (distal or proximal) and controlling relative to autonomy-supportive parenting. Our third goal was to focus on (1) the outcomes of pressures that go beyond parenting and (2) the correlates of parents' use of control relative to autonomy support. Specifically, we distinguished between three categories of outcomes: (a) parents' personal experiences, (b) dyadic outcomes, (c) individual parental and child outcomes in the achievement and interpersonal domain

Effects of pressure on parents' experiences. Across the interpersonal and achievement domains, parents' personal functioning was related to feelings of tension. Both parents scoring high on controlled orientation and parents scoring low on autonomous orientation reported higher levels of tension during a puzzle activity with their child (Chapter 5). Further, mothers high on separation anxiety reported elevated feelings of tension in a conversation about the child's friendships (Chapter 7). Apparently, pressures in parents' own personal functioning activate feelings of tension during activities with their offspring. At the same time, it seems that parents' personal functioning can function as a catalyst for experiencing tension when faced with another source of pressure. Indeed, when parents interact with their children under circumstances of child's failure (Chapter 5) and under social pressure (Chapter 7), only parents low on the autonomous orientation and parents high on separation anxiety report more experienced tension. That is, parents who lack autonomous functioning were found to be susceptible to experience tension under circumstances of child's failure in the achievement domain and mothers high on separation anxiety reported

feeling more tense during the conversation when they were exposed to the high social pressure condition in the interpersonal domain.

Effects of parenting style on dyadic, child, and parental outcomes. Next, we investigated the possibility that the effects of controlling relative to autonomy-supportive parenting radiate to all levels of functioning, that is to the dyadic level, the child's functioning, and the parent's personal functioning. First, in both the achievement (Chapter 5) and the interpersonal domain (Chapter 6), we concluded that controlling relative to autonomy supportive parenting is related to negative consequences for dyadic functioning as indicated by lower dyadic reciprocity. When parents were observed to be more controlling, the reciprocity of the parent-child dyad was found to be lower, meaning that the interaction was less harmonious and less smooth. This finding was in line with previous research showing that autonomy fosters dyadic reciprocity (Weinstein, Hodgins, & Ryan, 2010).

Controlling parenting also related to detrimental outcomes on the side of the child. In the achievement domain, controlling parenting relates to less engagement of the child in the puzzle activity and to less efficient puzzle performance (Chapter 5). In the interpersonal domain, we demonstrated that an autonomy-suppressing maternal style was related to lower adolescent's need satisfaction, to a lower degree of adolescent's disclosure, and to lower willingness to share information with the mother (Chapter 6). These findings were in line with extant literature documenting the adverse correlates and consequences of controlling parenting (e.g., Grolnick & Pomerantz, 2009; Joussemet, Landry, & Koestner, 2008; Soenens & Vansteenkiste, 2010).

A more innovative feature of this dissertation was the examination of relations between controlling parenting and parental outcomes. Past research has shown that the effects of a controlling relative to an autonomy-supportive style do not only apply to the receiver but also to the provider of control relative to autonomy-support. This effect has been demonstrated in the context of friendships (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006) and teacher-student relationships (Reeve & Cheon, 2014). Herein, we

demonstrated that these receiver-effects also can be demonstrated within parent-child dyads. Indeed, in the achievement domain we found that parents' observed controlling behavior was related to less parental engagement in the puzzle activity (Chapter 5). In the interpersonal domain mothers' observed autonomy support was related to their experienced need satisfaction and pleasure during the conversation (Chapter 6).

The transfer of pressure. We also aimed to address the intervening role of controlling parenting in relation between pressure on parents on the one hand and the personal and dyadic outcomes on the other hand. In the achievement domain, we found evidence for this process model of pressure as it appeared that the three distal sources yield an indirect association with the dyadic and personal outcomes through the intervening role of observed parental control (Chapter 5). These findings suggest that pressure on parents launches a negative spiral between parents and their children because pressure on parents activates elevated parental control which, in turn, backfires on the dyadic functioning.

In the interpersonal domain, we did not test a full transfer model of pressure. Yet, we showed evidence for the second part in this process. That is, to the extent that mothers were observed to be more autonomy-supporting relative to controlling during the conversation, the mother-adolescent dyad showed a more reciprocal interaction, which translated into higher levels of disclosure, more willingness among adolescents to share information with their mother, and experiences of the conversation as more pleasant (Chapter 6). Moreover, we demonstrated that mothers' use of an autonomy-supportive relative to controlling interaction style during a conversation results in more positive experiences during the conversation for both mothers as adolescent through the satisfaction of their needs for autonomy and relatedness (Chapter 6).

Addressing Goal 4: Testing the Generalizability of the Proposed Model

A final goal was to investigate whether the relations in our model can be generalized across different developmental periods, domains, and cultures and whether the relations would generalize across different operationalization of the studied parenting dimensions.

Generalizability across children's age, parental gender, domain, and culture. Especially in the achievement domain we paid attention to the generalizability of our model of pressure on parents. First, we showed that the associations between pressure on parents and control show up irrespective of the child's age (Study 1; Chapter 2). This finding suggests that the effects of pressure on parents are not defined by the child's developmental period in which they are studied. Second, we explored the potential moderating role of parental gender. We found similar relations between pressure and controlling parenting across parental gender (Study 2; Chapter 2). Finally, we found that our integrated model was largely similar among Belgian and Chinese parents (Chapter 3). That is, when Belgian or Chinese parents experience pressure they translate it into more controlling parenting (Chapter 3).

Next, we provided evidence for the generalizability of the second part of our proposed model (i.e., from controlling parenting to outcomes) across domains. We found evidence for a similar sequence of events in both studied domains as parents' use of controlling relative to autonomy-supportive parenting practices yielded negative consequences for the dyad, the child, as well as the parent in both the achievement (Chapter 5) and the interpersonal (Chapter 6) domain. We are more cautious to conclude that the first part of our proposed model (i.e., from distal pressures to outcomes) can be generalized across the different studied domains. Although the relation between pressure residing within parents' own functioning and controlling parenting appeared to be similar in the achievement (Chapter 2, 3, and 5) and the interpersonal domain (Chapter 7), this was not the case for social pressure. Indeed, social pressure was a significant predictor of parental

control in the achievement domain (Chapter 2, 3, and 5), whereas it was unrelated to parental control in the interpersonal domain (Chapter 7).

The finding that effects of pressuring forces on parental behavior were relatively similar across age, gender, culture, and domain suggests that these pressures may appeal to a fundamental and universal process in parents. On the basis of SDT it could be argued that these pressures undermine parents basic psychological needs for autonomy, competence, and relatedness and that frustration of parents' needs in turn predicts more need thwarting parental behavior towards children (e.g., De Haan, Soenens, Prinzie, & Dekovic, 2013). Much like children's basic psychological needs play an important and universal role in explaining effects of parenting on their psychosocial adjustment (Soenens & Vansteenkiste, 2010), the psychological needs may also represent universal mechanisms explaining at a deep, fundamental level how pressuring forces in parents' lives translate into parental behavior. Future research could address more systematically this intervening role of parental needs.

Observed parental control relative to autonomy-support. We investigated whether parents' use of controlling relative to autonomy-supportive practices can be observed in a reliable and valid way in both the achievement and interpersonal domain. Most research to date has relied on self-reported measures of parental control relative to autonomy support, which are either provided by the parent, the child/adolescent or both members of the dyad. Consequently, less attention has been devoted to the development of *observational measurements* to tap into these parenting dimensions, a limitation which especially applies to the interpersonal domain. In the present dissertation we managed to develop two reliable and valid observational tools; one in the achievement domain (Chapter 5) and one in the interpersonal domain (Chapter 6). By doing so, we overcame traditional problems that go along with self-reported measures, like shared method-variance and socially desirable answering. Moreover, the development of such tools has practical relevance as well. Indeed, both tools

provide more detailed insight into the specific manifestations of parental control and autonomy support in the context of parent-child puzzling interactions (Chapter 5) and mother-adolescent conversations about friendships (Chapter 6).

Implications for Theory, Practice, and Policy

The main goal of the dissertation was to advance knowledge about the reasons why some parents behave more controlling than others. In the following paragraphs we will discuss the implications of our findings for theory, practice, and policy.

What Do our Findings Tell us About the Phenomenon of "Pressured Parents, Stressed-out Kids"?

Over the past decade, there has been proliferation of alarming messages in the media warning that there is an increased pressure on parents and that children are more stressed-out (e.g., Carey, 2014, October 4). Also, some popular scientific books, both in America (Grolnick & Seal, 2008) and in the Netherlands (Schaubroeck, 2010) have described the phenomenon that parents increasingly experience a strong sense of responsibility to raise successful children. What do our findings tell us about this phenomenon?

First, we want to highlight that the current findings do not provide information about the prevalence of pressure among Belgian parents as we did not collect representative samples instead making use of non-probability sampling (Bornstein, Jager, & Putnick, 2013). Nor do the present findings shed light on historical evolutions in pressures on parents as parents of different generations need to be followed up over extensive periods of time to make such inferences (e.g., Twenge et al., 2010). Nonetheless, although one needs to be cautious to interpret ordinal data (Jamieson, 2004), it is interesting to take a look at the medians of parent reported social pressure. The present findings demonstrate that parents' reports about social pressure are neither exceptionally high nor exceptionally low. On a 5-point Likert

scale, they can be situated somewhere in between. Specifically, we obtained a median (*Mdn)* of 2.47 with an Interquartile Range (*IQR)* of 1.03 in Chapter 2 (Study 1; *Mdn* = 2.27, *IQR* = 0.96 in Chapter 3 (Belgian sample)) for the maternal ratings and a median of 2.53, *IQR* = 1.03 for paternal ratings (Study 1; *Mdn* = 2.30, *IQR* = 1.04 in Chapter 3 (Belgian sample). These median scores indicate that social pressure exists but that it is not tremendously large (Cohen & Morrison, 2000).

Second, we found that the experimentally induced social pressure yielded a medium effect on parents' functioning, suggesting that there is considerable room for inter-individual differences to play a role in this association. In other words, not all parents respond similarly and with strongly elevated levels of parental control to social pressures. Indeed, the effects of social pressure on parents' feelings of tension in the achievement domain (Chapter 5) and in the interpersonal domain (Chapter 7) were dependent upon parents' personal functioning; indicating that social pressure only resulted in elevated tension for parents who already were vulnerable for this pressure on the basis of their personal functioning. More research is needed to further investigate other moderators of social pressure among parents; for instance in the achievement domain parents' ability mindsets (i.e., their belief their child's competence is fixed or malleable; Moorman & Pomerantz, 2010), parents' self-critical perfectionism (Soenens et al., 2006) or parents' self-efficacy (Jones & Prinz, 2005) could moderate the effect of social pressure among parents. In the interpersonal domain, we propose that parents' attachment anxiety (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000) or dependency (Blatt, D'Afflitti, & Quinlan, 1976; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982) could be relevant moderators.

While we argue that the occurrence of social pressure experienced by parents in our samples did not take dramatic proportions and that social pressure does not invariably result in detrimental parenting for all parents, we also do not want to qualify our findings too much. First, the observation that people report relatively moderate scores on a construction does not

imply that the predictive value of the construct is also low. For instance, although adolescents typically report low average levels of psychologically controlling parenting, psychological control is a robust and systematic predictor of internalizing distress in parents (Soenens & Vansteenkiste, 2010). Small doses of a very toxic phenomenon may suffice to bring about unhealthy consequences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In line with these reasoning, we found that the association between subjectively experienced social pressure and controlling parenting was robust and systematic.

Second, the mean levels of experienced social pressure were elevated among some parents and among Chinese parents in particular (Chapter 3). As hypothesized, Chinese parents reported elevated levels of social pressure, which resonates with the idea that Chinese, relative to the Belgian, society is more heavily focused on performance and excellence (Hofstede, 2001). Furthermore, this increased level of social pressure constituted a mechanism that could at least partially account for Chinese parents' heightened susceptibility for child-invested contingent self-esteem and their heightened reliance on controlling strategies. These findings suggest that mean levels of perceived social pressure could vary in size and that experiences of social pressure are intertwined with social-cultural processes in the broader society.

Third, although the effects of experimentally induced social pressure on parental behavior were moderate in terms of effect size, we still believe that these effects are striking for a number of reasons. The parent-child dyads who participated in the experimental studies had a long history of interacting together. Accordingly, it is not easy to override the habitual parent-child interaction pattern. Further, our experimental manipulations involved very brief, one-shot inductions of pressure. The finding that even such one-shot inductions affected at least some parental experiences and behaviors suggest that parents are indeed susceptible to messages in their environment conveying potential pressure. Maybe a more frequent exposure

to social pressure would affect parents' parenting practices even more profoundly.

Gaining Identity Through the Child: An Innocent Parenting Practice?

Next to experiences of social pressure, we addressed the role of 'parental child-invested contingent self-esteem' and 'parental separation anxiety' in parents' parenting practices. Given the central role of both antecedents in the present dissertation, their communality is elaborated upon. In both cases, the child is conceived as a means to the parents' end. That is, whereas the child's closeness to the parent serves to overcome the mother's anxiety of being abandoned and left by herself in the case of separation-anxiety, the child's achievement helps to protect the mothers' fragile self-worth in the case of child-invested contingent self-esteem. This shared characteristic may become even more apparent when drawing upon the clinical literature that deals with the topics of narcissism and enmeshment. Specifically, in her book, entitled 'The drama of the gifted child', Miller (1997) portrays a *narcissistic* mother as unable to recognize and fulfill her child's *real* needs. Such a mother is characterized by the presence of fragile self-esteem that needs to be continually soothed and (re)assured through the child's achievements. With such a 'narcissistic' mother children are unable to become individuals on their own as the child develops an identity that is too heavily oriented towards the fulfilment of the mother's needs. A similar dynamic has been described in the interpersonal domain in the literature on family functioning. Specifically, the phenomenon of '*enmeshed families*' refers to families in which relationships are extremely close and tightly wound (Minuchin, 1985). Personal boundaries between family members are diffuse as it is not clear where the identity of the parent ends and that of the child starts. Yet, such families are very confused and concerned regarding the balance between involvement and separation. As a result, children are less able to develop their independent identity as they fulfill a critical role in the mothers' relational functioning.

The portrayed pathological models display an enlargement of the parental dispositions presented within the present dissertation. Although the pathological models cannot be applied in non-clinical developmental psychology, they gain more understanding in the spiral of adverse outcomes associated with such parental orientations. Specifically, they point out why the non-clinical parental dispositions are not that harmless they might appear to some scholars at first sight. Indeed, parents high on child-invested contingent self-esteem or separation anxiety will use intrusive techniques to assure their child fulfills the parent's needs. Our findings demonstrated that both parental orientations are associated with more psychologically controlling parenting. Herein, parents push their children to perform well (Chapter 2 and 3) or to remain in close contact (Chapter 7) and assure the child's devotion with the threat of losing the parent's love when the child doesn't satisfy the parent's desire. Nevertheless, both parental dispositions do not rule out parental affection for the child. Yet the *non-contingent* love that is so important for the child is lacking (Assor, Roth, & Deci, 2004). Instead a contingent love will take the place of the more genuine affection. Such a contingent love is associated with detrimental outcomes for children's well-being and identity development (Luyckx, Soenens, Goossens, & Vansteenkiste, 2007; Luyckx, Soenens, Vansteenkiste, Goossens, & Berzonsky, 2007). Further, our findings demonstrate that parents high on child-invested contingent self-esteem, besides relying on controlling parenting techniques, also endorse extrinsic goals in their child rearing (Chapter 4). Moreover, child-invested contingent self-esteem function as a catalyst of the relation between mothers' own extrinsic goals and their goal promotion as only mothers high on child-invested contingent self-esteem impose their own extrinsic goal framework on their child. Yet, this illustrates another way how the identity of parents, who strive to enhance their self-worth through the child's successes, overlaps with their child's identity process.

How can our Findings Inform Prevention and Intervention Efforts?

In this section we want to address the question how our findings can contribute to interventions and prevention programs targeting parents. At the most general level, the findings in this dissertation suggest that intervention and prevention efforts should not simply focus on altering parents' behaviors and practices. Although it is important to inform parents about the risks associated with controlling parenting and to guide parents in finding ways to be autonomy-supportive, the effects of any intervention focusing only on parental behavior may be short-lived as long as other features of parents' functioning are not taken into account. Our findings show that parents' use of a controlling style is rooted in a complex network of social, personal, and child-driven factors that pressure the parent's functioning. Hence, in addition to focusing on parents' behavior, intervention and prevention programs also need to take into account parents' functioning more generally and their experiences of pressure in particular. This can be done on several interrelated levels, including the level of social policy and the individual level of the parent.

Prevention through policy change. We have argued that parents are embedded in social contexts varying from more proximal to more distal ones (Bronfenbrenner, 1979). Distal contexts refer to the cultural, economic, and political environment, which may have an important, yet sometimes hidden role, in supporting versus undermining parents' functioning by providing norms, standards and ideas regarding optimal parental functioning (Deci & Ryan, 2012). We maintain that capitalism as a system both directly and indirectly promotes extrinsic aspirations and an achievement orientation (Kasser, Cohn, Kanner, & Ryan, 2007). The meritocratic ideology underlying the capitalistic economic system emphasizes that people are accountable for the (lack of) outcomes they achieve (Swierstra & Tonkens, 2008). These ideological values are highly correlated with undesirable outcomes such as cheating condoning (Pulfrey & Butera, 2013), poor

performance (Ryan & La Guardia, 1999), and dropout (Hardre & Reeve, 2003).

According to Hofstede's classification Belgium has a high, but not extraordinary, position towards emphasis on competition, achievement and success (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010). Yet, our findings suggest that parents' reliance on controlling strategies is determined at least partially by the pressures situated in the country's distal socio-economic and cultural environment (Chapter 2 and 3). In light of such findings, it is advisable to consider ways to diminish pressures on parents, for instance, by deemphasizing parents' accountability for their offspring's achievements. Further, downplaying an emphasis on competition and excellence at the societal level may help to take away some of the pressures on parents. In this context, interventions at the level of global policy may help; see for example, work by the New Economics Foundation; http://www.neweconomics.org. The hope is that the work in the present dissertation, but also more global work within SDT or other frameworks, that are interested in promoting greater well-being among people, inform these policies and interventions and in doing so promote more optimal functioning and wellness among both parents and children and the communities within which they are embedded.

In addition to downplaying parents' accountability for their offspring's achievement, it also seems important to decrease emphasis on children's performance in our educational system (Ryan & Weinstein, 2009). Indeed, we demonstrated that parents raise pressure on their children when they are confronted with their child's failure to attain a specific performance standard (Chapter 5). Such finding suggests that we need to be cautions when applying norms, standards, and grades in our educational system. Maybe, we could consider a learning program less contingent on measurable outcomes. The Finnish education policy is an interesting case. It shows that downplaying the focus on child's performance and grades is possible without undermining children's potential and growth. Finland is known for

its excellent school system that, in spite of its low focus on grades and achievement (Klasse, 2013, September 2), has a high ranking of students' school performance even slightly higher compared to Belgium (Program for International Student Assessment (PISA), 2012). The reduced focus on excellence in the Finnish school system is also reflected in Hofstede's classification (2001). Consequently, we expect that within the society of Finland decreased levels of pressures among parents would be found compared to Belgium. Interestingly, Shanghai, the urban Chinese area in which our Chinese parent sample was recruited (Chapter 3), flaunt at the first place of the 2012 PISA-investigation, indicating excellent performance of their students. Yet, it remains to be seen whether this top position in the ranking of students' performance goes hand in hand with emotional well-being among Chinese students. In a recent review comparing Chinese and American parenting practices, it was concluded that although Chinese students outperform their American counterparts, they pay an emotional cost (Pomerantz, Ng, Cheung, & Qu, 2014).

The protective role of awareness. Because, evidently, there are limits to how much actual social pressures on parents can be changed, it is also important to help parents understand how social environments affect them and to provide them with adequate strategies to cope with the demands of a pressuring environment. An important first step in this process is to increase parents' awareness of pressuring forces. According to SDT, awareness entails the authentic attempt to experience and become conscious of what is occurring within and around oneself (Weinstein, Przybylski, & Ryan, 2013). As such, awareness represents a very important means to take greater responsibility for oneself and thus to be less vulnerable to the controlling forces that are prevalent in the social environment (Brown & Ryan, 2003; Niemiec et al., 2010). Autonomous functioning individuals are known for their higher levels of awareness (Weinstein & Ryan, 2011). Yet, we suppose parents who lack autonomous functioning could be trained to become more aware of pressures in their surrounding (Ryan & Deci, 2008).

Having knowledge about and understanding how social environments as well as their own motivational orientation affect their functioning, may downplay some of the detrimental effects of it.

Specifically, parents who display greater awareness are more conscious about how social pressure can affect their parenting practices (Weinstein & Ryan, 2011). As such, even when they experience certain pressures in their environment or from within, they would not necessarily pass on the pressure to the child by engaging into controlling parenting practices.

Awareness also represents an important step towards selecting adequate coping strategies to deal with social pressure in parents' environment. In Chapter 5, we demonstrated indirect evidence for the protecting role of parents' awareness. Indeed, we found that parents who are high on autonomous orientation are more resilient under the child's failure induction. Such finding suggests that parents withhold thresholds in their own functioning to experience and get affected by social pressure. Ultimately, awareness may even help parents to proactively change their life conditions. Parents may actively select contexts, social contacts, and activities that are experienced as less pressuring and that, in contrast, foster feelings of autonomy, competence, and relatedness. Raising awareness may not be easy, however, in particular for those parents who are prone to select pressuring social contexts and to perceive pressure in their environment (e.g., parents high on a controlled causality orientation). These parents in particular may benefit from professional guidance helping them to understand the detrimental effects of a pressuring environment on their parent-child relationship, their child's development, and ultimately their own well-being.

Learning parents to detach their identity from their child's identity. In addition to actually changing parents' social environment and teach parents how to cope with pressuring demands in the environment, we reason that it is important to pay attention to more fundamental dynamics in parents' own functioning. Specifically, we argue that an important step in

reducing controlling parenting is to help parents to see their child as a person with a distinct identity. As discussed previously, this recommendation is rooted in the observation that the two most proximal predictors of controlling parenting identified in this dissertation, 'parental child-invested contingent self-esteem' and 'parental separation anxiety', have in common that parents' identity is interwoven with the child's development in an unhealthy way. It seems important to help parents to see their child as an individual with a unique identity and with specific preferences and goals, some of which may overlap with a parent's personal preferences and some of which may be distinct. Parents may need to develop an orientation of non-attachment (Sahdra, Shaver, & Brown, 2010) to the child's development and outcomes. By this we do not mean an orientation of indifference or noninvolvement. Instead, we refer to an attitude of authentic interest in and even support of the child's development coupled with the capacity not to attach one's ego as a parent to the child's outcomes. To arrive at such an orientation of non-attachment it may be important for parents to develop some trust in the child's organismic development (Landry et al., 2008). Parents high on trust in organismic development assume that children, given adequate support, will naturally develop towards greater maturity and well-being as they grow older. With such an orientation it might be easier for parents to be a bit more relaxed about the child's development and to observe and support the child's development from a healthy distance. Consistent with the idea that trust in organismic development may protect parents from an unhealthy investment of their identity in the child's development (and subsequent controlling practices), research has shown that this orientation is related to autonomy-supportive parenting (Landry et al., 2008).

Adjustment of parental behavior. Of course it remains important to provide practitioners and parents with insight in the degree to which certain parenting practices are adaptive or maladaptive. In the present dissertation we developed two specific coding schemas for observing

controlling relative to autonomy-supportive parenting practices in the achievement (Chapter 5) and interpersonal (Chapter 6) domain. We believe that the specific behaviors identified in these coding schemes have practical relevance. Table 1 formulates the do's (autonomy-supportive practices) and don'ts (controlling practices) that can inform practitioners and parents about specific controlling practices that can better be avoided and about specific autonomy-supportive behaviors that can be encouraged. In addition to pointing out negative (i.e., controlling) parenting practices, it is also important to provide to parents positive (i.e., autonomy-supportive) practices. Doing so is important because autonomy-supportive parenting is key to foster trust and high-quality communication in parent-child relationships and to promote children's psychosocial adjustment more generally. Yet, more concrete intervention programs are needed to incorporate the findings of the present dissertation in an applicable tool for practitioners. An important step in this direction was taken by Joussemet, Mageau, and Koestner (2014), who tested and demonstrated the effectiveness of a parent intervention program focusing on autonomy-support.

Limitations and Future Research

Although several interesting findings emerged throughout the different empirical chapters in this dissertation, some general limitations need to be mentioned. We also outline a number of directions for future research.

Sampling: From Homogeneous to More Heterogeneous Representative Samples

A first limitation relates to the samples that were used in the current dissertation. Although all samples were gathered with the intention to obtain substantial variability with respect to parental and child gender, level of education, and family structure, they are non-representative samples and thus

Table 1

Examples of Concrete Autonomy-Supportive and Controlling Parenting Practices in the Achievement and Interpersonal Domain

	Do Autonomy-supportive practices	Don'ts Controlling practices
Achievement domain		
	Taking the child's perspective.	Taking over the activity – do it yourself.
	Encouraging active participation and granting freedom.	Increasing the peace; rushing through the activity.
	Providing process praise while encouraging the child.	Continuous and unsolicited providing advice.
Interpersonal domain		
	Allowing the adolescent to disclose at his/her own pace.	Lecturing the child about what he/she should do.
	Using open-ended questions and exploring the child's experiences.	Showing disappointment and using guilt-induction.
	Trying to reflect the child's feelings during the conversation.	Predominant parental talking

we should be careful with generalizing our results to a broader population of parents and children.

First, except from Chapter 3 (in which both Belgian and Chinese parents were included), all our participants lived in Dutch-speaking part of Belgium, a Western European country with a rather strong focus on individuality and a moderately high emphasis on competition, achievement and success (Hofstede, 2001; Hofstede et al., 2010). Although in Chapter 3 we investigated some of our hypotheses in another country (i.e., China) with a focus on collectivism rather than individuality and more emphasis on competition, achievement and success according to Hofstede's classification (2001; Hofstede et al., 2010), more research is needed to test the generalizability of our model across nations characterized by a different cultural climate. Specifically, it would be interesting to invest the proposed model in a nation in which excellence and performance are of less importance than those included in the present dissertation.

Next, mothers and fathers were not always represented equally in the samples. Especially in the interpersonal domain, in which *only* mothers were involved, the role of fathers needs to be investigated in future research. Specifically, the question whether parental control relative to autonomy support in this context manifests differently within fathers compared to mothers and the question whether paternal separation anxiety is also salient in father-adolescent relationships, need to be addressed. Across domains a balanced gender ratio would allow to perform more multi-group analyses (as we did in Chapter 2) to investigate whether or not the structural relations between the study variables differ between mothers and fathers.

Third, our samples primarily consist of parents of late elementary school children and middle adolescents. Future research may want to focus on different age categories as well, such as parents of infants and emerging adults. Based on the universality claim within SDT (Chen et al., 2014; Deci & Ryan, 2000), we argue that the same processes of pressure will operate irrespective of the developmental period under study. We took a first step in

this regard by demonstrating the structural equivalence of our proposed model in parents of late elementary school children compared to parents of children in their mid-adolescent period (Chapter 2). However, future research can examine whether such structural equivalence of our model can be demonstrated with parents of much younger or much older children, as the relationship between parents and children changes as a function of the child's age (Bornstein, 2015).

In a final consideration regarding sampling, we note that our recruitment procedures might be biased. While this was less an issue in our samples that made use of self-reports (i.e., Chapter 2, 3, and 4), in our observational and experimental studies (Chapter 5, 6 and 7) selection bias may have played a stronger role. In the observational and experimental studies (Chapter 5, 6, and 7), participating parent-child dyads were asked for a larger commitment as it required dyads to come into the lab (in the interpersonal domain) or to stay after school (in the achievement domain) for a one-hour participation in the study. Because of this higher required commitment, participating dyads may constitute a more homogeneous and a well-adjusted subset of the larger population of dyads. Hence, future research should rely on more heterogeneous and representative samples (e.g., Bornstein et al., 2013).

Measurement and Design: From Unidirectional to Bidirectional

Another concern is that the designs of a considerable part of our studies did not allow for a truly causal test of effects of pressure on parents. Yet, we made a substantial effort to overcome this issue as we (a) investigated the relation between pressures and parenting with a longitudinal design in one study (i.e., Chapter 2, Study 2) and (b) we relied on experimental manipulations of some of our intended pressures in two of our studies (Chapter 5 and 7). Although these efforts may bring more certainty regarding the direction of effects, the notion of *bidirectional* influences could *not* be addressed in our models. Indeed, the design of our studies did

not allow for an examination of the mutual occurrence of parent- and child-effects together in a reciprocal complex interaction system (Kuczynksi, 2003). Hence, there is a need for (short-term) longitudinal studies, diary studies and focus group studies, with an emphasis on the family as an interacting system of individuals and relationships, to examine in greater depth the possibility of bidirectional associations between parents and children. Moreover, future research could investigate the bidirectional associations within a Social Relations Model (Kenny & La Voie, 1984) for questionnaire-based studies. Such a statistical model would allow us to simultaneously address different sources of influence and to determine the reciprocal relations in families (Cook, 2005). To capture the bidirectional influence within observations of parenting and child behavior, state space grid analysis would represent a solid solution (Hollenstein, 2007). This observational analysis is designed to account for both the reciprocal nature and structure (as opposed to simply content) of interactions in family dynamics over time (e.g., Granic, Hollenstein, Dishion, & Patterson, 2003).

Identifying the Gaps in the Process Model of Pressure in the Interpersonal Domain

In the achievement domain we covered all the distal types of pressure on parents; that is social pressure, pressure within parents' functioning, and pressure from child's low competence. Yet, in the interpersonal domain there were some lacunas in the model of pressure. Indeed, we did not examine the influence of children's functioning on parents' parenting behaviors. For instance, future research could investigate the role of children's general level of self-disclosure (e.g., Kerr & Stattin, 2000), the overall quality of their peer-affiliations (e.g., Brown, Mounts, Lamborn, & Steinberg, 1993), and children's internalizing and externalizing behaviors (e.g., Hollenstein, Granic, Stoolmiller, & Snyder, 2004). Furthermore, much like child-invested contingent self-esteem, separation anxiety represents a parental orientation with direct relevance for the parent-

child relationship. Yet, parental separation-anxiety may be rooted in more distal personal and developmental parental factors. Thus, a more distal pressure residing within parents' personal functioning was lacking in the interpersonal domain. Such a distal pressure could for example be parents' history of attachment anxiety (Mikulincer et al., 2000) or their general personality disposition towards dependency on others (Blatt et al., 1976; Blatt et al., 1982). Future research could try to fill the gaps within the model in the interpersonal domain.

General Conclusion

The present dissertation aimed to address the question "What makes parents controlling?". We applied several methods and designs to gain more knowledge about the role of pressure on parents' use of a controlling interaction style with children. Our results confirm the importance of three distal sources of pressures on parents. Social pressure, pressure residing within parents' functioning, and pressure arising from the child's behavior and development appear to increase the likelihood that parents are more controlling and less autonomy-supportive during interactions with their child. This research also began to unravel some of the complex interactions between these sources of pressure in parents' interaction style. Herein, parents' inclination of their self-worth in their child's achievements constitutes the underlying mechanism why social pressure and pressure within parents translate into more controlling parenting practices. In turn, parents' controlling relative to autonomy-supportive practices were related to negative consequences for the parent-child dyad's quality of interaction and for the functioning of both members of the dyad. Our findings thus suggest that pressure on parents launches a negative spiral between parents and their children because pressure on parents activates elevated parental control which, in turn, backfires on the dyadic, parental and child's functioning.

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Nederlandstalige Samenvatting

Antecedenten en Gevolgen van Controlerend Opvoeden in het Domein van Presteren en Interpersoonlijke Relaties: Een Correlationele en Experimentele Benadering

De meeste ouders hebben het beste voor met hun kinderen. Ze investeren aanzienlijke tijd, energie, en financiële middelen in de opvoeding van hun kind (Bornstein, 2015). Hierbij proberen ze de ontwikkeling van hun kind te ondersteunen en ervoor te zorgen dat hun kind zich goed gedraagt. Sommige ouders vertalen deze goedbedoelde ouderlijke investering echter in druk zetten op het kind. Uit voorgaand onderzoek blijkt dat een dergelijk controlerend en dwingend opvoedingsgedrag de schoolse en socio-emotionele ontwikkeling van kinderen ondermijnt en een negatieve weerslag heeft op hun algemeen welzijn (bijv., Soenens & Vansteenkiste, 2010). We willen daarom onderzoeken welke factoren ervoor zorgen dat ouders zich controlerend gedragen.

Inleiding: Controlerend Opvoeden

We doen beroep op de Zelf-Determinatie Theorie (ZDT; Deci & Ryan, 2000) om controlerend opvoeden te kaderen. Binnen deze theorie wordt *controlerend* opvoeden gedefinieerd als een opvoedingsstijl die dwingend en dominerend is (Assor, Roth, & Deci, 2004; Grolnick & Pomerantz, 2009; Soenens & Vansteenkiste, 2010). Wanneer ouders controlerend zijn, zetten ze hun kind onder druk en handelen ze vooral vanuit hun eigen perspectief eerder dan te vertrekken vanuit de noden van hun kind (Grolnick, Ryan, & Deci, 1991; Joussemet, Landry, & Koestner, 2008). Controlerend opvoeden manifesteert zich zowel in het hanteren van extern controlerende technieken waarbij het kind openlijk onder druk wordt gezet en ouderlijk gezag wordt afgedwongen (bv. via dreigen, roepen, straffen) als via meer intern of psychologisch controlerende technieken die het kind op een meer subtiele manier bespelen. In het laatste geval, gaan ouders vooral inspelen of appelleren aan innerlijk dwingende gevoelens van het kind, zoals schuld, schaamte en angst (Barber, 1996). Ze doen dit bijvoorbeeld door hun teleurstelling uit te drukken of door enkel voorwaardelijke liefde te bieden (d.i., enkel liefde geven als het kind voldoet aan de ouderlijke verwachtingen zoals bijv. bij een goed rapport). Controlerend opvoeden mag niet verward worden met gezondere vormen van ouderlijke betrokkenheid zoals het bieden van structuur of begeleiding (Grolnick & Pomerantz, 2009). Structuur bieden betekent dat ouders duidelijke richtlijnen en verwachtingen rond wenselijk gedrag aan hun kind communiceren. Dit kan op een controlerende (bijv. door te dreigen met sancties) of autonomie-ondersteunende (bijv. door het geven van een zinvolle uitleg) wijze gebeuren (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014).

Controlerend opvoeden wordt binnen ZDT gecontrasteerd met *autonomie-ondersteunend* opvoeden. Autonomieondersteuning verwijst naar de mate waarin ouders het vrijwillig en psychologisch vrij functioneren van hun kind ondersteunen (Soenens et al., 2007). Hierbij vertrekken ouders

vanuit het perspectief van hun kind, moedigen ze participatie en keuze aan, gaan ze in dialoog met hun kind en voorzien ze een zinvolle uitleg voor een verzoek wanneer keuze niet mogelijk is (Deci, Eghrari, Patrick, & Leone, 1994; Grolnick, Deci, & Ryan, 1997). Autonomieondersteuning binnen ZDT betekent niet dat ouders hun kinderen aanmoedigen om meer afstand te nemen en volledig zelfstandig te functioneren (Soenens et al., 2007). In tegendeel, autonomieondersteuning betekent het kind aanmoedigen te handelen vanuit zijn eigen waarden, doelen en interesses.

In dit doctoraat onderzoeken we de dynamieken betrokken in controlerend en autonomie-ondersteunend opvoeden in twee belangrijke levensdomeinen, zijnde het *domein van prestaties* en het *domein van interpersoonlijke relaties* (Soenens, Vansteenkiste, & Luyten, 2010). In de literatuur vinden we overtuigende evidentie voor de negatieve effecten van controlerend opvoeden en de positieve effecten van autonomie-ondersteunend opvoeden op de algemene ontwikkeling van kinderen (bijv., Soenens & Vansteenkiste, 2010). Specifiek in het prestatiedomein vormen deze opvoedingsdimensies voorspellers van o.a. de schoolse prestaties van kinderen (bijv., Su, Doerr, Spinath, Johnson, & Shi, 2014) en hun kwaliteit van studiemotivatie (bijv., Katz, Kaplan, & Buzukashvily, 2011). In het interpersoonlijke domein is er o.a. evidentie voor het feit dat controlerend en autonomie-ondersteunend opvoeden voorspellend zijn voor de mate waarin kinderen spontaan onthullingen doen (bijv., Soenens, Vansteenkiste, Luyckx, & Goossens, 2006) of de mate waarin ze betrokken zijn tijdens een gesprek met hun ouders (bijv., Mauras, Grolnick, & Friendly, 2012).

Globale Doelstelling van het Doctoraat: Beantwoorden van de vraag "Wat Maakt Ouders Controlerend?"

Gegeven de nadelen gepaard met controlerend en dwingend opvoeden is het belangrijk om de vraag "Wat maakt ouders controlerend?" te behandelen. Deze vraag kreeg vooralsnog relatief weinig aandacht in de bestaande literatuur en vormt de centrale doelstelling van het doctoraat.

Hierbij stellen we dat *druk op ouders* een kritische factor is om te begrijpen waarom ouders soms een controlerende en dwingende houding aannemen. Om onze doelstelling concreet te verwezenlijken, onderzoeken we de rol van *drie verschillende bronnen van druk* op ouders, namelijk druk vanuit de omgeving van ouders, druk resulterend uit het functioneren van hun kind en druk die vervat zit in de persoonlijkheid van ouders. In zes empirische hoofdstukken formuleren we antwoorden op deze vraag. We deden hiervoor beroep op diverse onderzoeksdesign, zoals vragenlijstonderzoek, experimentele inductie van druk en een cross-culturele vergelijking van druk op ouders in België en China, als ook op verschillende methodes, zoals zelfrapportage en observatie van opvoedingsgedrag. Hieronder wordt een overzicht gegeven van de steekproeven, de designs en de methodes die we hanteerden om onze onderzoeksvragen te beantwoorden.

	Design	Methode	Steekproef	Leeftijd kind
Inleiding				(% meisjes)
Deel 1: Prestatiedomein				
2	Cross-sectioneel	Ouder- & kind-rapportage	254 moeders, 248 vaders & 254 kinderen	7-16 (51)
	Longitudinaal	Ouder-rapportage	186 ouders	8-12 (50)
3	Cross-cultureel	Ouder-rapportage	België: 209 moeders & 209 vaders China: 209 moeders & 203 vaders	13-15 (58)
4	Cross-sectioneel	Ouder-rapportage	184 moeders & 184 adolescenten	14-20 (66)
5	Experimenteel	Observaties	124 ouder-kind dyaden	9-13 (47)
Deel 2: Interpersoonlijke domein				
6	Cross-sectioneel	Observaties	62 moeder-adolescent dyaden	12-16 (77)
7	Experimenteel	Observaties	Zelfde als in 6	
Discussie				

Drie Bronnen van Druk op Ouders

Grolnick (2003) stelt dat druk op ouders hun energie en psychologische beschikbaarheid vermindert. Hierdoor vernauwt het perspectief van ouders wat ertoe leidt dat ze zich op een meer rigide manier focussen op de door hen gewenste uitkomsten. Bijgevolg zorgt druk ervoor dat ouders kiezen voor de meest voor de hand liggende en kost-efficiënte manier van handelen, met name het aannemen van een controlerende en dwingende houding ten aanzien van het kind. Het geduld en de psychologische openheid die nodig is om het perspectief van het kind in te nemen en autonomie bij het kind aan te moedigen (d.i., een autonomie-ondersteunende benadering), ontbreekt wanneer ouders zichzelf onder druk voelen staan. Drie bronnen van druk worden onderscheiden van elkaar (Grolnick, 2003).

Sociale druk. Ten eerste kan druk ontstaan in de omgeving van de ouder. Hierbij is de negatieve invloed van armoede, onveilige leefomstandigheden, negatieve levensgebeurtenissen en stressoren op het werk op controlerend opvoeden aangetoond (bijv., Grolnick, Weiss, McKenzie, & Wrightman, 1996; Gutman, McLoyd, & Tokoyawa, 2005; McLoyd & Wilson, 1991; Repetti & Wood, 1997). In tegenstelling tot dergelijke tastbare stressoren en risicofactoren, kan sociale druk binnen het interpersoonlijke en socio-culturele netwerk rond ouders een belangrijke bron van stress voor ouders constitueren (Bronfenbrenner, 1979). Hierbij kunnen ouders vanuit verschillende actoren in de sociale omgeving, zoals de media, de school van het kind, andere ouders, grootouders en de partner, druk ervaren om een succesvolle ouder te zijn. Over het bestaan en de invloed van een dergelijke druk op ouders werd reeds door experten in het opvoedingsdomein gespeculeerd (Grolnick & Seal, 2008), doch het fenomeen kreeg vooralsnog weinig empirische aandacht. In het doctoraat werd daarom de invloed van sociale druk op ouders onderzocht. Ouders met minder succesvolle kinderen (in het prestatiedomein) of ouders die minder geïnformeerd zijn over de naschoolse activiteiten en vrienden van het kind

(in het interpersoonlijke domein) falen in hun verantwoordelijkheid om een 'goede' ouder te zijn. We verwachten dat deze sociale druk meer controlerend opvoeden met zich meebrengt.

We ontwikkelden een vragenlijst om sociale druk op ouders rond de prestaties van hun kind te meten en toonden de betrouwbaarheid en validiteit ervan aan in een pilootstudie. Vervolgens demonstreerden we in verschillende studies (Hoofdstuk 2 & 3) dat hoe meer sociale druk ouders ervaren betreffende hun verantwoordelijk voor het succes van hun kinderen, hoe meer ze hun kind zelf onder druk plaatsen om goed te presteren. Dit verband werd vastgesteld bij zowel Vlaamse als Chinese ouders (Hoofdstuk 3). Ten slotte onderzochten we ook het effect van experimenteel geïnduceerde sociale druk op ouders (Hoofdstuk 5). Net voor het werken aan een puzzeltaak werd bij ouders hoge dan wel lage sociale druk geactiveerd door hen te informeren dat de puzzelactiviteit al dan niet een weergave was van de logische intelligentie van hun kind en dat men als ouder verantwoordelijkheid was voor het succes van het kind op de puzzeltaak. Ouders die onder hoge sociale druk met hun kind aan deze taak werkten, bleken meer controlerend en minder autonomie-ondersteunend tijdens de begeleiding van hun kind, zoals geobserveerd door een externe waarnemer. In tegenstelling tot deze vastgestelde effecten in het prestatiedomein vonden we dergelijke effecten van experimenteel geïnduceerde sociale druk op geobserveerd opvoedingsgedrag niet in het relationele domein, met name tijdens een gesprek tussen moeder en kind over vriendschapsrelaties (Hoofdstuk 7). De afwezigheid van een effect van sociale druk in dit domein kan mogelijks verklaard worden doordat moeders al meer ervaring hadden opgebouwd rond de taak die hen werd opgelegd (zijnde gesprekken over de vriendschapsrelaties van het kind) waardoor ze minder vatbaar waren voor het geïnduceerde verantwoordelijkheidsgevoel.

Druk vanuit de competenties van het kind. Druk kan ook voortkomen uit functioneren van het kind, met name uit het gebrekkige niveau van presteren dat een kind kan vertonen. Hierbij onderzochten we het

effect van schoolse prestaties van kinderen op het opvoedingsgedrag van ouders. Voorgaand onderzoek toont aan dat de schoolse prestaties van kinderen en opvoeding een vrij complexe verhouding vertonen. Sommige studies tonen vooral een invloed van lage objectieve prestaties van kinderen (d.i., hun punten op school) op de mate van controlerende opvoeden (bijv., Pomerantz & Eaton, 2001), terwijl andere studies aantoonden dat vooral de perceptie van ouders over de gebrekkige competenties van hun kind de drijvende kracht achter controlerend opvoeden is (bijv., Ng, Pomerantz, & Deng, 2014). In het doctoraat onderzochten wij daarom de invloed van zowel objectieve als subjectief ingeschatte schoolse competenties op controlerend opvoeden. Concreet gingen we in de natuurlijke context van een oudercontact, waarin ouders feedback ontvingen over de schoolse prestaties van hun kind, na wat het effect is van de objectieve en gepercipieerde prestatie van kinderen op het controlerend opvoedingsgedrag van ouders (Hoofdstuk 2). Hieruit bleek dat enkel lage gepercipieerde schoolse competenties (en niet de effectieve prestaties) samenhingen met de intentie om meer controlerend te zijn tijdens de begeleiding van het kind bij toekomstig schoolwerk. Het feit dat het objectieve prestatieniveau (d.i., de punten van het kind) niet gerelateerd was aan het opvoedingsgedrag van ouders doet ons vermoeden dat ouders niet per definitie met meer druk reageren op lage prestaties van kinderen maar dit alleen doen wanneer zij de prestaties van kind als gefaald beschouwen. In Hoofdstuk 5 onderzochten we tevens het effect van gemanipuleerde inductie van falen en succes van kinderen op het gedrag van ouders tijdens het samen werken aan een puzzel. De prestatie van het kind werd gemanipuleerd door de moeilijkheid van de prestatiestandaard van de taak te variëren (d.i., via een lage versus hoge norm). Ouders die met hun kind werkten in de hoge norm conditie - welke resulteerde in falen van het kind - werden als meer controlerend en minder autonomie-ondersteunend geobserveerd dan ouders in de lage norm conditie - welke resulteerde in succes van het kind. Terwijl het in de experimentele studie voor ouders duidelijk was of het kind de prestatiestandaard al dan niet

bereikte, was dit tijdens het oudercontact een minder uitgemaakte zaak. Derhalve lijkt het aannemelijk dat in meer natuurlijke contexten de perceptie van ouders over het succes of falen van hun kind doorslaggevender is voor de gehanteerde opvoedingsstijl. Vermoedelijk wordt de perceptie van ouders over het functioneren van hun kind beïnvloed door verschillende factoren, zoals de verwachtingen van ouders, de inzet van het kind, het klasgemiddelde en school- en leerkracht- gerelateerde normen. (Noot. In het interpersoonlijke domein, viel de invloed van het functioneren van het kind op het opvoedingsgedrag buiten het bestek van het doctoraat.)

Druk vanuit de persoonlijkheid van ouders. Een derde belangrijke bron van druk op ouders situeert zich in hun eigen persoonlijkheid. Hoewel onderzoek heeft aangetoond dat de persoonlijkheid van ouders geassocieerd is met hun opvoedingsgedrag (Prinzie, Stams, Dekovic, Reijntjes, & Belsky, 2009), blijven studies die de concrete invloed van het persoonlijk functioneren van ouders op opvoeding in kaart brengt eerder beperkt. Dit is opvallend omdat zowel Belsky (1984) als Barber et al. (2002) al ruime tijd geleden opperden dat de persoonlijkheid van ouders waarschijnlijk de belangrijkste bron van druk omvat. Afhankelijk van het domein waarin we opvoedingsgedrag bestudeerden, vormden sommige persoonlijkheidskenmerken een belangrijkere risicofactor dan andere. We bespreken hieronder de drie factoren van druk in het functioneren van ouders die wij onderzochten.

In het prestatiedomein onderzoeken we ten eerste de rol van gecontroleerde motivationele oriëntatie bij ouders. Motivationele oriëntatie verwijst hierbij naar de wijze waarop ouders hun gedrag reguleren en de omgeving percipiëren (Deci & Ryan, 1985). Wanneer ouders een gecontroleerde oriëntatie hanteren, reguleren ze hun gedrag op basis van interne en externe verwachtingen en zijn ze erg gevoelig voor de eventuele druk in hun omgeving. Dit zien we ook vertaald in het opvoedingsgedrag dat ouders met een gecontroleerde oriëntatie hanteren, waarbij we voor het eerst aantonen dat deze ouders meer gebruik maken van controlerende

opvoedingstechnieken. We zien deze associatie zowel bij ouder- als bij kind-rapportage over het opvoedingsgedrag (Hoofdstuk 2) als wanneer we het opvoedingsgedrag van ouders observeren (Hoofdstuk 5). Ten tweede onderzochten we de rol van onvervulde dromen van ouders. Onvervulde dromen verwijzen naar niet-waargemaakte ambities en betreurde keuzes in het leven van mensen (Beike, Markman, & Karadogan, 2008). Voorgaand onderzoek toonde vooral de samenhang tussen de onvervulde ambities van ouders en hun wens of verlangen voor het kind om deze gefnuikte dromen in vervulling te brengen (Brummelman et al., 2013). In het huidige doctoraat toonden wij echter aan dat de onvervulde dromen van ouders zich ook vertalen naar reëel opvoedingsgedrag; nl. ouders die onvervulde dromen koesteren, zetten hun kinderen onder druk om beter te presteren. We vonden dit verband terug bij zowel Vlaamse als Chinese ouders (Hoofdstuk 3).

In het interpersoonlijke domein ten slotte, onderzochten we de rol van separatieangst bij moeders. Separatieangst is een kenmerk van moeders die de groeiende onafhankelijkheid van hun kind ervaren als een bedreiging voor de moeder-kind band en die angst en stress ervaren wanneer ze geconfronteerd worden met (een signaal betreffende) de separatie van hun kind (Hock, Eberly, Bartle-Haring, Ellwanger, & Widaman, 2001). Onderzoek naar de rol van ouderlijke separatieangst toonde reeds aan dat dit persoonskenmerk een kwetsbaarheidsfactor vormt voor ouder-gerapporteerd controlerend opvoeden (bijv., Kins, Soenens, & Beyers, 2011; Soenens, Vansteenkiste, Duriez, & Goossens, 2006). In het voorliggende doctoraat werd echter de samenhang met geobserveerde opvoedingsdimensies bekeken. Separatie-angstige moeders werden als meer controlerende en minder autonomie-ondersteunend geobserveerd tijdens een gesprek met hun kind over vriendschapsrelaties (Hoofdstuk 7).

Het samenspel tussen bronnen van druk. Een van de sterktes van het huidige doctoraat is dat we in staat waren om het samenspel tussen verschillende bronnen van druk op opvoeding te onderzoeken, zowel in het prestatiedomein (Hoofdstuk 5) als in het interpersoonlijke domein

(Hoofdstuk 7). Hoewel het mogelijk is dat elk van de drie bronnen met elkaar interageren in de voorspelling van opvoedingsgedrag, vormt de druk resulterend vanuit de persoonlijkheid van ouders de meest voor de hand liggende katalysator voor de andere bronnen van druk (Belsky, 1984). Echter, noch in het prestatiedomein, noch in het interpersoonlijke domein, vonden we dat druk resulterend vanuit het persoonlijk functioneren van ouders de druk vanuit de andere bronnen (d.i., sociale druk en competenties van het kind) uitvergroot.

Ouderlijke Kind-geïnvesteerde Contingente Zelfwaarde als Onderliggende Verklaring

Naast het onderzoeken van de drie distale bronnen van druk op opvoedingsgedrag werd ook onderzocht of een meer proximale bron van druk, d.i., ouderlijke kind-geïnvesteerde contingente zelfwaarde, een verklarende rol kan spelen in de relatie tussen de meer distale bronnen van druk en opvoeding. Contingente zelfwaarde verwijst naar de mate waarin mensen hun zelfwaarde afhankelijk is van geleverde prestaties (Deci & Ryan, 1995). Voorheen werd contingente zelfwaarde vooral onderzocht binnen één individu (bijv., Kernis, Lakey, & Heppner, 2008). In dit doctoraat onderzoeken we echter hoe contingente zelfwaarde een rol kan spelen in de ouder-kind context. Meer bepaald gaan we dieper in op de implicaties van de mate waarin ouders hun zelfwaarde investeren in de prestaties van hun kind. Kind-geïnvesteerde ouderlijke contingente zelfwaarde betekent dan dat wanneer het kind goed presteert de zelfwaarde van ouders toeneemt, terwijl het falen van het kind zorgt voor een deuk in de zelfwaardering van ouders. We verwachtten dat ouders die hun zelfwaarde sterk laten afhangen van de prestaties van hun kind meer controlerend opvoedingsgedrag stellen omdat ze de controlerende opvoedingsstrategieën zien als een kost-efficiënte manier om hun gewenste doel, een succesvol kind, te bereiken. Ouders hopen (al dan niet bewust) via het zetten van druk en het verhogen van de prestaties van het kind hun eigen zelfwaarde een flinke boost te geven.

Relatie met opvoedingsstijl en -doelen. Zoals verwacht hing ouderlijke kind-geïnvesteerde contingente zelfwaarde samen met een meer controlerende opvoeding, zowel zoals gerapporteerd door het kind als door de ouder (Hoofdstuk 2 en 3). Meer nog, we toonden aan dat stijgingen in ouderlijke contingente zelfwaarde parallel verlopen met stijgingen in controlerend opvoedingsgedrag (Hoofdstuk 2). Bovendien bleek dit verband tussen contingente zelfwaarde en controlerend opvoeden zowel voor te komen bij Vlaamse als Chinese ouders (Hoofdstuk 3). Ten slotte demonstreerden we dat ouderlijke contingent zelfwaarde niet alleen samenhing met de stijl die ouders hanteren (d.i., met een meer controlerende opvoedingsstijl), maar ook met de doelen die ouders promoten in hun opvoeding. Concreet toonden we aan dat ouders die hun zelfwaarde meer afhankelijk maken van de prestaties van hun kind ook meer geneigd waren extrinsieke doelen, zoals het nastreven van financieel succes en fysieke aantrekkelijkheid, bij hun kind aan te moedigen (Hoofdstuk 4).

Verklarende functie. Daarnaast onderzochten we de rol van ouderlijke kind-geïnvesteerde zelfwaarde in de relatie tussen meer distale bronnen van druk en controlerende opvoeding. Ouderlijke contingente zelfwaarde opereerde hierbij vooral als mediator in de relatie tussen sociale druk en persoonlijk functioneren van ouders met hun controlerende opvoedingsstijl (Hoofdstuk 2 en 3). Hoe meer ouders druk ervaren in hun omgeving om een succesvol kind groot te brengen en hoe meer zij functioneren vanuit een gecontroleerde oriëntatie of onvervulde dromen koesteren, hoe meer ze hun zelfwaarde laten afhangen van de prestaties van hun kind. Deze fragiele zelfwaardering vertaalt zich op zijn beurt in het hanteren van een controlerende opvoeding om het kind onder druk te zetten om goed te presteren.

Druk op Ouders Heeft een Brede Waaier aan Gevolgen

Hoewel de hoofddoelstelling binnen dit doctoraat er in bestond om antecedenten van opvoeden in kaart te brengen, hebben we ook een brede

waaier aan gevolgen van controlerend dan wel autonomie-ondersteunend opvoeden onderzocht. Tot nu toe was er in de literatuur vooral oog voor de gevolgen van controlerend dan wel autonomie-ondersteunend opvoeden voor het kind zelf. Wij onderzochten echter zowel in het prestatie- (Hoofdstuk 5) als in het interpersoonlijke (Hoofdstuk 6) domein een ruimere waaier aan gevolgen voor alle actoren betrokken in het opvoedingsproces; d.i. het kind, de ouder en de ouder-kind dyade.

Ten eerste toonden we aan dat een controlerende opvoeding de kwaliteit van de relatie tussen ouder en kind ondermijnt en dit zowel in het prestatie- als in het interpersoonlijke domein. Meer bepaald observeerden we dat de interacties in de ouder-kind dyade minder harmonieus en vlot verliepen wanneer ouders controlerend dan wel autonomie-ondersteunend waren. Het opvoedingsgedrag dat ouders hanteerden had ook gevolgen voor hun eigen functioneren. Zo bleken controlerende ouders minder betrokken en beleefden ze minder plezier aan de interactie met hun kind. Vervolgens bleken kinderen van controlerende ouders in het prestatiedomein ook minder goed te presteren en waren ze minder betrokken op de taak. In het interpersoonlijk domein bleken deze kinderen minder geneigd om persoonlijke zaken over zichzelf aan hun moeder te onthullen. In de mate dat ze dit wel deden, was dit eerder gevoed door druk; hun onthulling was dus minder authentiek te noemen. Ten slotte bleek dat de druk vanuit de drie hierboven besproken bronnen via de opvoedingsstijl van ouders zich vertaalt in de nadelige gevolgen voor het kind, de ouder zelf, als ook de ouder-kind dyade. Druk op ouders zorgt dus voor een waaier aan negatieve uitkomsten die op termijn de ontwikkeling van het kind fnuiken.

Observatie van Opvoeding

Voorafgaand onderzoek baseerde zich vooral op zelf-gerapporteerde ouderlijke controle of autonomie-ondersteuning waardoor er weinig aandacht was voor het ontwikkelen van een goed instrument voor het observeren van dit opvoedingsgedrag. Nochtans is het observeren van

opvoedingsgedrag, in plaats van zich uitsluitend te baseren op zelf-rapportage, belangrijk om problemen zoals gedeelde methode-variantie en sociaal wenselijk antwoorden te ondervangen. In het kader van het huidig doctoraat ontwikkelden we daarom twee (één in het prestatie- en één in het interpersoonlijke domein) betrouwbare en valide observatiesystemen om controlerend dan wel autonomie-ondersteunend opvoedingsgedrag van ouders in kaart te brengen. Een bijkomend voordeel is dat de observatie van opvoedingsgedrag ons ook een gedetailleerd inzicht verschaft in de specifieke gedragingen die ouders vertonen wanneer ze controlerend dan wel autonomie-ondersteunend zijn. Hieronder wordt een beperkt overzicht getoond van een aantal items waarop het gedrag van ouders gescoord werd tijdens het werken aan een puzzeltaak in het prestatiedomein en een gesprek over vriendschapsrelaties in het interpersoonlijke domein.

Autonomie-ondersteunend	Controlerend
Prestatiedomein	
Het perspectief van het kind innemen.	De taak overnemen; het zelf doen.
Actieve participatie van het kind aanmoedigen en het kind ruimte geven.	Het tempo opdrijven; het kind opjagen.
Het gedrag van het kind (niet zijn gehele persoon) prijzen en het kind aanmoedigen.	Voortdurend en ongevraagd het kind begeleiden.
Interpersoonlijk domein	
Het kind toestaan om op eigen tempo eventuele onthullingen te doen.	Het kind de les lezen over wat het zou moeten doen.
Het kind open vragen stellen en de ervaringen van het kind exploreren.	Teleurstelling tonen en schuld bij het kind induceren.
De gevoelens van het kind tijdens het gesprek proberen te reflecteren.	Overheersend zelf aan het woord zijn.

Generaliseerbaarheid, Beperkingen en Implicaties

We vonden evidentie voor het feit dat onze bevindingen relatief gelijklopend waren over de onderzochte domeinen, over verschillende leeftijdsgroepen van het kind, over het geslacht van de ouder en het kind en over de onderzochte cultuur heen. De generaliseerbaarheid van onze bevindingen draagt bij tot de idee dat druk op ouders een fundamenteel en universeel proces in ouders activeert. Doch is het ook belangrijk aan te stippen dat de bevindingen vanuit dit doctoraat niet zonder meer gegeneraliseerd kunnen worden naar de globale populatie van ouders. We maakten immers gebruiken van selecte steekproeven waarbij het doel was om inzicht te verwerven in de relaties tussen concepten eerder dan de representativiteit ervan na te streven. Dit neemt niet weg dat we ernaar streefden om zo breed mogelijke steekproeven te verzamelen betreffende spreiding in geslacht, leeftijd en opleidingsniveau en dat we streefden naar een zo hoog mogelijke responsratio.

Bovendien onderzochten we ons model van druk ook bij ouders in een andere socio-economische en culturele context, meer bepaald in een steekproef van Chinese ouders (Hoofdstuk 3). Hierbij toonden we aan dat de verbanden in ons model voor het prestatiedomein globaal hetzelfde patroon vertoonden bij Chinese als bij Vlaamse ouders. Echter, Chinese ouders rapporteerden verhoogde niveaus van sociale druk en onvervulde dromen. Deze bevinding resoneert met de idee dat de Chinese, ten opzichte van Belgische, samenleving sterker gericht is op prestaties, competitie en excellentie (Hofstede, 2001). Bovendien toonden we aan dat de verhoogde niveaus van sociale en persoonlijke druk bij Chinese ouders deels een verklaring bieden waarom Chinese ouders hun zelfwaarde meer investeren in de prestaties van hun kind en meer controlerend opvoedingsgedrag hanteren.

Onze bevindingen suggereren dat het gebruik van controlerende opvoedingsstrategieën door ouders deels bepaald wordt door de sociale druk die gesitueerd is in het distale socio-economische en culturele klimaat van het land waarin ouders hun kind grootbrengen. In het licht van onze

bevindingen is het zinvol om te reflecteren over de vraag hoe de druk op ouders kan verminderd worden. Eén voorbeeld hiervan is een globaal verminderede focus op mislukking versus succes in de samenleving (Deci & Ryan, 2012). Ook in het onderwijs zien we mogelijkheden om via een verminderde gerichtheid op de prestaties van kinderen de druk op ouders te reduceren (Ryan & Weinstein, 2009). Onze resultaten wijzen minstens op het voorzichtig aanwenden van normen en standaarden om de ontwikkeling en de prestaties van kinderen op te volgen (Hoofdstuk 2 en 5). We kunnen hierbij overwegen om in het studieprogramma minder te werken met contingent meetbare resultaten. Het Fins schoolsysteem biedt hierin een alternatief (Klasse, 2013, September 2). De Finnen tonen aan dat een onderwijs minder gericht op prestaties en punten de schoolse ontwikkeling van kinderen niet in de weg staat. In tegendeel, ondanks de beperkte aandacht in het Finse systeem voor punten, hebben zij een (iets) hogere ranking voor de schoolse prestaties van hun studenten dan de Belgen (Program for International Student Assessment (PISA), 2012).

De sociale druk op ouders zal echter nooit helemaal uitgeschakeld kunnen worden. Daarom is het ook belangrijk dat ouders bewuster worden van de invloed die de sociale omgeving op hen heeft en adequate coping strategieën worden aangeleerd om het hoofd te bieden aan druk. Sommige ouders vertonen dit verhoogde bewustzijn reeds en zullen vermoedelijk ook minder beïnvloed worden door de druk die op hun schouders rust. In Hoofdstuk 5 toonden we indirecte evidentie voor deze hypothese daar ouders met een hoge autonome oriëntatie (kenmerkend voor het vertonen van meer bewustzijn en reflectie) geen toename in spanning vertoonden wanneer ze weden blootgesteld aan experimenteel geïnduceerde druk. Bovendien vermoeden we dat meer bewuste ouders meer geneigd zullen zijn een omgeving te selecteren waarin sociale druk een minder prominente rol speelt. Ouders die minder autonoom of minder bewust functioneren, kunnen in deze zoektocht begeleid worden in het kader van specifieke interventies. De toepassing hiervan behoeft uiteraard verder onderzoek.

Besluit

Het huidige doctoraat beoogde de vraag "Wat maakt ouders controlerend?" te behandelen. We hanteerden verschillende methoden en designs om meer inzicht te verwerven in de rol van druk op de controlerende dan wel autonomie-ondersteunende opvoedingsstijl van ouders. Onze resultaten bevestigen het belang van drie distale bronnen van druk op ouders. Sociale druk, druk voortkomend uit het functioneren van het kind en druk die vervat zit in de persoonlijkheid van ouders, verhogen de kans dat ouders meer controlerende en minder autonomie-ondersteunde interacties aangaan met hun kind. Het voorgestelde onderzoek wierp ook een eerste licht op het ontrafelen van de complexe interactie tussen de verschillende bronnen van druk op opvoedingsgedrag. Hierin toonden we aan dat ouders die sociale of persoonlijke druk ervaren hun zelfwaarde meer afhankelijk maken van de prestaties van hun kind, wat op zijn beurt resulteert in meer controlerend opvoedingsgedrag. Vervolgens toonden we aan dat controlerend opvoeden nadelige gevolgen heeft voor zowel het kind, de ouder, als de kwaliteit van de ouder-kind relatie. Druk op ouders lijkt dus een negatieve spiraal in gang te zetten met een nefaste invloed voor de ontwikkeling van het kind.

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